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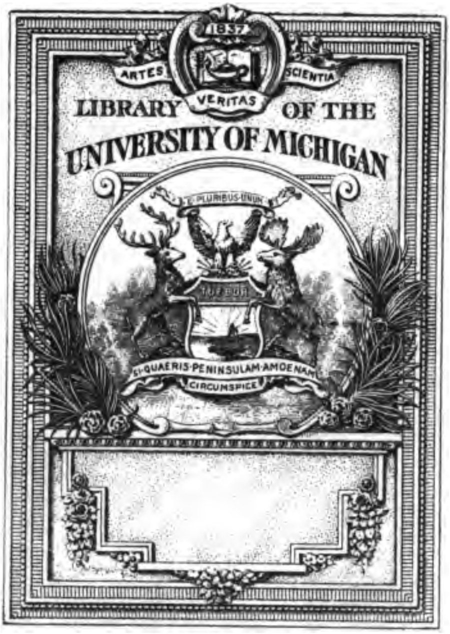
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Compliments of the Author.

The Causes and Prevention
OF
Urethral Stricture.

Reprinted from the Hahnemannian Monthly, February, 1898.

The Causes and Prevention

OF

Urethral Stricture

BY

L. T. ASHCRAFT, A. M., M. D.,

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(Read before the Homœopathic Medical Society, State of Pennsylvania,
Scranton, September 21, 1897.)

THE CAUSES AND PREVENTION OF URETHRAL STRICTURE.

BY L. T. ASHCRAFT, A. M., M. D., PHILADELPHIA.

(Read before the Homœopathic Medical Society, State of Pennsylvania, Scranton, September 21, 1897.)

SINCE stricture of gonorrhœal origin is so frequently treated by the general and special practitioner, it is that variety of which I shall speak. It may be defined as a lessening of urethral dilatability accompanied by structural changes in any or all of the tissues forming its walls.

Looking over the subject in a superficial way we see that it is usually the result of a badly managed acute clap which has become chronic, several factors being responsible. The urethra in advance of the compressor urethra and surrounding the bulb is abundantly supplied with glands and follicles, a favorite site for the inroads of gonococci and other pyogenic oaganisms. Urinary conditions subject to changes resulting from dietetic errors also predispose to irritate an already congested canal. The tissue changes will perhaps be better understood by quoting Finger, of Vienna. The opinions advanced are the results of ante and post-mortem findings, both macroscopical and microscopical. Hyperæmia, serous swelling and infiltration are revealed by urethroscopy. The epithelium rarely suffers to the extent of erosions, although in some superficial areas are observed. Marked thickenings and whitish discolorations exist. Circumscribed spots on the surface of the sub-epithelial tissue present uneven nodules, which by microscopical examinations prove to be granulations. The openings of the lacunæ of Morgagni are enlarged in some, and in others replaced by milky-white nodules imbedded in the mucosa. Occasionally erosions and papillomata obstruct the field. The most interesting observations, however, are disclosed by microscopic research. The upper layer of the cylindrical cells of the epithelium in most cases undergo mucoid degeneration. The transition cells occupy a larger area than usual. Pavement epithelium predominates. In the sub-epithelial connective tissue the inflammatory process produces most important changes, consisting of an infiltration of the connective tissue resulting in retracting tissue. In new cases this infiltrate occupies the upper layers of the sub-epithelial connective tissue. Sometimes the cavernous body is involved; in other cases the cellular infiltrate contains new bloodvessels, both of which give the sub-epithelial connective tissue that papillomatous aspect termed granulation tissue. These granulations are flattened by retraction and a callosity results. The lacunæ exhibit changes similar to those found in the mucous membrane, producing in some dilation of their lumen; in others, if retraction occurs, atrophy results. Where the corpus cavernosum is involved, Littré's glands are the seat of changes amounting sometimes to destruction. The corpus cavernosum is frequently attacked (although in some cases remaining intact) in two ways: first by the chronic infiltration remaining superficial, entering along the excretory duct and around the bodies of Littré's glands; second, where the chronic infiltration occupies the entire thickness of sub-epithelial periurethral tissue, penetrating the corpus cavernosum, it remains either superficial or occupies its entire width. Where the circumscribed infiltration has undergone retraction, the mucosa and corpus cavernosum are converted into a firm retracting callosity. These deep-spreading callosities are the cause of stricture. To recapitulate: Granulating tissue is the result of long residence of the virus of gonorrhœa in certain areas of the urethra, and by its conversion into cicatricial tissue stricture is formed. Practically, how can we prevent this? The problem logically rests upon the treatment of chronic urethritis, its prevention, and, when established, its eradication. Let us briefly mention some methods employed for its prevention. In March, 1896, I had the honor of reading a paper before the Homœopathic Medical Society of the County of Philadelphia on the treatment of "Acute Specific Urethritis," entering a plea for its abortive treatment. The methods therein advised are now followed by those connected with the genito-urinary department of the Hahnemann Hospital Dispensary. Several important measures have since been added. The well-selected internal remedy is assigned its proper place. Particular attention is paid to local treatment.

Nitrate of silver is valuable because it destroys gonococci, and although this drug has been abused, nevertheless, under the following conditions, its action is prompt A 4 per cent. solution should be used during the first twenty-four hours of the first attack; afterwards every second day until the discharge is free from gonococci. Although it may be administered by the simple-injection method, yet it is more successfully applied through an endoscopic tube. The drug suited to most cases is permanganate of potash, although its action is not so oxidizing as peroxide of hydrogen. It may be applied by the simple-injection method—strength, half a grain of the drug in half an ounce of water—although most satisfactory results have been obtained by continuous irrigation. At the Hahnemann Hospital Dispensary we have always been ardent advocates of this method, and recently our enthusiasm has increased since using the Valentine apparatus. A brief description may be interesting. It consists of a conical percolator having a capacity of 36 ozs., with a rubber tubing 12 feet long and 3/8 inch in diameter attached to its outlet. The proximate end of this tube is passed through a glass shield, a stop-cock is attached, and a glass injection-syringe inserted ; a notched bar on the stop-cock regulates the force of the stream. The percolator is bracketed to a frame on the wall, and by means of pulleys can be elevated to a height of 9 feet. With this the posterior urethra and bladder may be flushed by overcoming the resistance offered by by the compressor urethra, but they are left intact by pressing firmly with the little finger at the peno-scrotal junction. The hydrostatic pressure afforded balloons the urethra, establishing an artifical œdema—an unfavorable soil for the life of the gonococci. Treatment should be given every morning and evening, using a solution of permanganate of potash of 1–1000. Valentine washes the bladder in acute anterior urethritis. This we refrain from, since there have been recorded several cases of infection when such a plan was adopted. Bichloride of mercury is valuable because of its germicidal properties ; it should be employed in a solution of 1–20,000, using continuous irrigation. If a chronic state results, stricture is probable, and although the time elapsing from an acute gonorrhœa to stricture formation is rarely less than twelve months, yet within a shorter period granulation-tissue forms. How can we cure chronic urethritis ? Our first duty is to ascertain what portion of the canal is concerned in the morbid process by analyzing the well-known symptoms occasionally present, imploying the two-glass urine test, using sounds, and by urethroscopy. Frequently no subjective symptoms accompany this condition, and usually the diagnosis is made by the other methods mentioned. The two-glass test, while not an infallible guide, is a most useful one. Pus formed anterior to the compressor urethra flows outward from the meatus, and is prevented by this muscle from returning to the bladder. That formed in the posterior urethra flows backward. Now, if the patient urinates in two glasses, the first will represent a portion of the bladder-contents plus washings from the urethra. The other will be clear, unless cystitis or kidney disease exists. If these are absent, and there is pus in the second glass, it indicates a posterior urethritis. A sound is of course useful in locating diseased areas. Frequently, however, satisfactory results are only obtained by endoscopy.

Chronic urethritis is very difficult to cure, even after thorough measures have been employed. Without doubt, the proper method is to direct local treatment to the diseased area; of course, at the same time, instituting such measures as will allay urethral inflammation. Sexual and alcoholic excesses should be positively interdicted. Occasionally we will meet with a variety of chronic urethritis where the canal is in a condition of catarrhal inflammation, the discharge being quite profuse. In such cases we should irrigate morning and evening with a solution of 1–1000 of permanganate of potash or 1–5000 of nitrate of silver, until the discharge becomes mucoid. Sometimes an underlying constitutional disease may have to be corrected before the case is cured. Ordinarily, however, the majority will present no symptoms except a morning drop or a gluing together of the lips of the meatus. The first therapeutic measure of importance that should be instituted is the passage of a sound; the size selected should comfortably fill the meatus, which, if too contracted, should be cut. The operator should make the incision upon the floor of the canal, postponing deep urethral treatment until the wound heals. The passage of a sound is beneficial, because it hastens the absorption of inflammatory products and expresses the content of the glands and lacunæ, thereby exerting a curative action on the pyogenic process. In the absence of urethral fever, a sound should be passed every third day. Following each instrumentation, the urethra should be irrigated with a 1–5000 solution of nitrate of silver. One of the most satisfactory measures at our command for treating the lessons found in chronic urethritis is by the use of the endoscope. With it diseased areas can be touched with very powerful solutions. Applications should be made by means of a cotton swab wound around the end of an applicator which has been previously dipped into a solution of either nitrate of silver, grs. 60 to the ounce, or iodine, grs. 60 to the ounce. This procedure should not be repeated until all inflammatory reaction has entirely disappeared. During the time elapsing between the passage of a sound or the employment of endoscopy the urethra should be daily irrigated with some antiseptic solution. By following these measures we should cure most cases of prolonged urethritis, and naturally (where the inflammation has not existed too long) prevent stricture. No case should be pronounced well until the following conditions have been satisfied: When no complications, such as involvement of other organs, exist, and when an injection of nitrate of silver fails to show gonococci in the discharge that it produces.

1318 SPRUCE STREET,
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...The...
Diagnosis and Treatment
OF
Urethral Stricture
OF
Large Calibre.

Reprinted from the Hahnemannian Monthly, March, 1898.

The Diagnosis and Treatment
...of...
Urethral Stricture
...of...
Large Calibre.

BY

L. T. ASHCRAFT, A. M., M. D.,
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Hahnemann Hospital Dispensary,
Philadelphia.

(Read before the Homœopathic Medical Society of the County of Philadelphia,
March 10, 1898.)

THE DIAGNOSIS AND TREATMENT OF URETHRAL STRICTURE OF LARGE CALIBRE.

BY L. T. ASHCRAFT, A. M., M. D., PHILADELPHIA.

(Read before the Homœopathic Medical Society of the County of Philadelphia, March 10, 1898.)

MY reason for presenting this subject before this Society will be apparent by recognizing the fact that the presence of large-calibre stricture is largely responsible for the continuance of a chronic urethral discharge, and moreover, without its removal, no gleet can be cured.* Also, because they contract to a small calibre, producing the alarming symptoms so well known to all; but if recognized early these strictures can be removed without endangering life. Their presence may be assumed when gleet persists, and positively diagnosed by urethral exploration. The instrument usually employed for this purpose is Otis's urethrometer. It should be perfectly clean and well lubricated with a 25 per cent. solution of boroglyceride, and passed (if the tube permits) to a depth of 5½ inches. Its bulb should then be enlarged to suit the calibre of the urethra, and an attempt made to withdraw the instrument. While no absolute rule can be laid down regarding the calibre of the urethra, nevertheless Otis maintains that a normal canal should allow the passage of a No. 30-F sound.

The following is the scale adopted at the Hahnemann Hospital Dispensary:

A penis having a circumference of three inches should admit a 30-F sound. For every increase or decrease of a quarter of an inch in its circumference two millimeters should be added or subtracted. During urethral exploration, if the points of normal narrowing of the anterior urethra at the middle of the spongy portion and the meatus are recalled, errors in diagnosis cannot occur. Moreover, strictures of a gonorrhœal origin are most frequently encountered in the first three inches of the urethra, and quite often situated in the region of the bulb.

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* Otis, *Stricture of the Male Urethra.* Holmes's *System of Surgery* (American Ed., vol. ii.). Ashhurst's *Text-Book of Surgery* (6th Ed.). Belfield's *Diseases of the Urinary and Male Sexual Organ.* Keyes's *Genito-Urinary Diseases and Syphilis.*

Following this operation the canal should be irrigated with 1 : 5000 solution of nitrate of silver.

Treatment.—Strictures of large calibre may be treated by gradual dilatation or internal urethrotomy, the choice of treatment being determined by their location and character. The followers of Oberlander maintain that strictures of large calibre should be dilated. Otis teaches that they should all be cut. Perhaps it may be well to submit the treatment followed at the Hahnemann Hospital Dispensary. An attempt is made to dilate all before resorting to a cutting operation, the exception being given to those situated about the fossa navicularis. Very hard, irritable strictures should be cut, and congenital narrowings about the meatus should likewise be cut; other varieties dilated. The object of instrumentation is to enlarge the calibre of the urethra, by the process of absorption. This can be accomplished in the majority of cases by gradual dilatation, the necessary instruments for which are a set of curved sounds, Kollman's four-branched anterior dilator, Oberlander's curved dilator, and Kollman's four-branched posterior dilator. Curved sounds are universally employed to dilate strictures. Their mechanism and technique of employment are familiar to all. Kollman's dilators are the best instruments as yet invented for the treatment of urethral narrowings. They are protected by a rubber cover, thereby preventing their blades from injuring the walls of the canal. The anterior dilator has four branches, which may be dilated from 20 to 45—French. When introduced into the opening of a stricture it may be allowed to remain there until the necessary degree of dilatation desired for one sitting is obtained. With this instrument it is possible to obtain fractional degrees of dilatation. Its mechanism makes it peculiarly adapted for the treatment of hard, dense strictures of the anterior urethra. The curved dilator of Oberlander is used for the dilatation of the bulbous portion of the urethra, Kollman's four-branched dilator for the posterior urethra is well adapted to the dilatation of hard strictures about the bulbo-membranous junction. Before introducing any instrument within the urethra it is advisable to cleanse the canal from the pyogenic organisms so frequently present in these conditions. The foreskin, glans penis and meatus, should be irrigated with 1 : 5000 solution of bichloride of mercury. Every instrument used for urethral treatment must be sterile. Before using sounds they should be placed in boiling water, dipped in alcohol, and flamed off. It is unnecessary to observe these precautions when employing a dilator, or, indeed, any instrument that is protected by a rubber cover. Only decent cleanliness is required. The covers of these instruments, however, should be placed in a pan of hot water containing a 5 per cent. solution of carbolic acid. Before using they should be dried. A little cornstarch dusted over the dilator makes it an easy task to draw on its covering. These precautions having been observed, and the size, character and location of the stricture ascertained, treatment may be commenced, provided neither acute posterior urethritis nor systemic conditions exist. Recent soft infiltrates of the pendulous urethra are readily absorbed by using steel sounds. The size selected should be two millimetres smaller than the opening of the canal. After lubrication with a 25 per cent. solution of boroglyceride, an attempt should be made gently to pass the sound slightly beyond the strictured area, the patient occupying the recumbent position. Should the meatus be too contracted for this instrument it should be cut, and deeper urethral treatment postponed until the wound heals. Should the sound selected fail to pass the stricture, several sizes should be tried until the proper one is found. It should then be withdrawn and the urethra irrigated. Following this operation there is burning during urination and an increase of discharge. These unpleasant symptoms, however, pass away within twenty-four hours, and after three days, unless complications occur, the operation may be repeated, increasing at each sitting the size of the sound two millimetres, until the full calibre of the canal is restored. This can be demonstrated only by using the urethrometer. If gleet persists, we must look to erosions as a cause. Hard, dense strictures of the pendulous urethra may disappear after repeatedly using Kollman's anterior dilator. This operation is performed by gently passing the instrument through the strictured area and slowly turning the screw to the right, by this means separating the blades and obtaining that degree of dilatation desired. Dilatation must cease when the patient feels the slightest degree of pain. This passes away within a few minutes, when additional dilatation may be obtained. The great danger offered by this treatment consists in attempting too much dilatation at one sitting. A good rule to observe is not to attempt to obtain more than two millimetres of dilatation at one sitting. Lesions of the bulbous portion usually disappear when dilated by the curved instrument of Oberlander, but if they should not, Kollman's four-branched posterior dilator will usually effect a cure. The latter instrument is particularly indicated when we have to dilate a hard, dense stricture. The same rules should govern dilatation in this region as elsewhere. Should complications arise, dilatation should be suspended and proper treatment instituted. It must not be forgotten that immoderate indulgence in alcoholic beverages or sexual intercourse during treatment is largely responsible for the continuance of a discharge. The class of strictures demanding internal urethrotomy having been mentioned, it remains but to briefly describe the operation.

For operations upon the meatus and fossa navicularis, a blunt tenotome answers admirably. The precautions to be observed, when operating on any part of the urethra, are as follows:

The entire canal should be irrigated with 1 : 5000 solution of nitrate of silver for several days before the operation. A few minutes before operation the glans penis and foreskin should receive a thorough cleaning. All instruments used are made perfectly aseptic by boiling and immersing in a 5 per cent. solution of carbolic acid. The operation may be rendered painless by injecting two drachms of a 4 per cent. solution of eucaine, as suggested by Dr. Benson. Meatotomy is performed by slowly cutting upon the urethral floor. Ability to pass the proper size-sound demonstrates the success of the operation. If carefully performed, complications never result. Hæmorrhage is controlled by packing the meatus with a strip of iodoform gauze. The after-treatment consists in passing a full-sized meatus-sound every day until the wound heals. Otis' dilating urethrotome is well adapted for the division of strictures of large calibre, since it possesses the double advantage of cutting and dilating at one time. This instrument is introduced slightly beyond the stricture and is then dilated to several millimetres beyond the urethral calibre. The division of the stricture is accomplished by withdrawing the knife from its groove, and freedom from narrowing is demonstrated by the ability to withdraw a full-sized bulbous sound. The operation is performed under eucaine anæsthesia, the incision being made upon the roof. Hæmorrhage may be controlled by applying a firm bandage to the penis. Provided no complications occur, three days after the operations a full-sized sound should be passed and the urethra thoroughly irrigated. These procedures are repeated every three days until the wound heals. The complications to be dreaded in internal urethrotomy are urethral fever and death. A fatal complication may usually be attributed to a severe urethral fever which may be averted by a rigid observance of antiseptic details.

Incurvation of the penis following internal urethrotomy is an occasional, permanent annoyance. Even after the urethral calibre has been restored, gleet may be present. In such cases the urethroscope will usually detect slight areas of denudation. Local treatment with a strong solution of nitrate of silver is indicated.

It is to be regretted that dilatation is not indicated in the treatment of every urethral stricture, since a method attended with such little personal inconvenience can but commend itself to both physician and patient.

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A GENUINE HERMAPHRODITE.

REPORT
OF A CASE OF TRUE
HERMAPHRODISM:
WITH
OPERATION
FOR
REMOVAL OF A TESTICLE.

BY

HENRY N. AVERY, M. D.

New-York.
1868.

A GENUINE HERMAPHRODITE.

POUGHKEEPSIE, N. Y.
On-the-Hudson.
October, 1868.

To the Profession:

The case embodied in this Report is one that has created considerable interest in the Profession, from the nature of the developments being so novel and extraordinary, and from the fact that no analogous case is recorded.

Condensed reports of the case appeared in the *Philadelphia Medical and Surgical Reporter* for August 22d, 1868, the *Medical Investigator* of Chicago for October, 1868, and the *Medical Gazette* of New York for September 5th, 1868; but, at the solicitation of many, I have republished these reports, and particularized more fully parts that were merely referred to, and supplied points that space would not allow. I do not doubt but what a similar case has existed, but as for an identical one I can find no evidence of, nor reference to any case, that carries such unmistakable evidence of the existence of a true *testicle*, and where an operation has settled the matter beyond a mere diagnosis.

It has been asserted by many, and claimed by some, that a condition of nature embodying the two sexes can never exist, although cases have been reported where malformations deformed either the one sex or the other—without adding to either—and making what might appear a Hermaphrodite, and have been commonly so called ; but I do not think a case is on record where one person has possessed the organs of the male and female organizations in a complete state of development, and where such positive evidence of existence is obtained by an operation. The *fact* can now be settled that such a thing as a genuine Hermaphrodite has existed.

In giving the history of the case, I shall give the woman's statement, as near as possible, in her own language.

* * *

August 6th, 1868—

Christie Ann C——— called at my office to consult me as to her case. She stated that she had recently arrived from Nova Scotia, was visiting a sister in this city, and had calculated to visit New York, but was advised to call and see me, for the purpose of obtaining surgical aid. She stated that she was unmarried, twenty-four years of age, five feet ten inches high, enjoying comparatively good health, occupied during the past two years in teaching school, and that she had a *growth* upon her privates.

Her object in coming to me was, she said, to see if I would remove the tumor, as it annoyed her. The physician at home, the only one to whom she had ever shown it, stated that he could do nothing for her.

From observation I discovered that she possessed a deep, coarse voice, a masculine frame and face ; in fact, resembled an ordinary coarse woman.

After a careful examination, to my surprise I found the following to exist: The mammæ were undeveloped, the chest was full, and the pelvis somewhat contracted for a woman of her size; the clitoris, resembling a penis in flaccid state, was two inches long and half an inch in diameter, with well developed gland and foreskin—no orifice was discovered. A vagina two inches deep and well formed, existed; but a close examination per rectum and bladder did not discover any trace of a uterus; the meatus urinarius and vestibule were perfect; the right labium majorum was quite natural and of usual size; the labia minora were traceable: but, in the folds of the left labium there appeared a large pendant tumor, resembling the left *testicle* of a man, with a well developed scrotum of usual size, of some four inches in length, resembling in every respect the scrotum of a man. Tracing up what appeared to be the cord, I found it made its exit from the external abdominal ring and had every indication of a spermatic cord; the epididymis appeared to be natural; in fact, everything resembled a *testicle*.

She stated that she felt some sexual desire, and that every morning for the past six years she had noticed a small quantity of blood in the mucus she was in the habit of coughing up.

To my question, as to how long the tumor had existed, she stated that she had noticed nothing of it until she was ten years of age.

Being placed in somewhat of an embarrassing position, in discovering so much more than I expected to find, I resolved to call a consultation, to ascertain if my diagnosis of a *testicle* would be confirmed. Accordingly, Drs. I. S. P. Lord, E. H. Parker, and my brother Dr. E. W. Avery, all of this city, were called in, when they all agreed that it resembled in every respect a *testicle*: but, the case being so extraordinary they could not form any diagnosis, although they advised an operation.

With the assistance of Dr. Lord and Dr. E. W. Avery, I proceeded to perform the operation of removing the tumor, by the usual process for castration—by making an incision of some five inches in length, so as to expose the cord, when three arteries, a nerve, and veins, were found. Severing the cord, the retraction was the same that might be expected in performing the operation upon a man; the tumor was then dissected out, the wound partially closed, and the patient placed in bed. Dressings of diluted carbolic acid were used, and in the course of ten days, the ligatures having come away, the wound was found nearly closed. Sixteen days after the operation she was up and around.

After removal, the tumor was examined by Drs. Lord, E. W. Avery, and several others, with a microscope magnifying three hundred and fifty (350) times, when cellular structure and convoluted tubes were visible, with rudimentary spermatozoa; in fact, everything indicated a *testicle.*

Subsequent examinations have proven the nature of the tumor; it has been declared beyond any doubt to be a *testicle.*

HENRY N. AVERY, M. D.

4

STRANGULATED

UMBILICAL HERNIA.

Removal of Fifty-Eight inches of Mortified Intestine during Pregnancy—Recovery.

aylord
By G. D. BEEBE, M. D.

RE-PRINT,
FROM UNITED STATES MEDICAL AND SURGICAL JOURNAL.

STRANGULATED UMBILICAL HERNIA.

MORTIFICATION AND REMOVAL OF FORTY-EIGHT INCHES OF INTESTINE — RECOVERY.

•

BY G. D. BEEBE, M.D., CHICAGO.

IN communicating the subjoined particulars of the operation upon Mrs. Childs for publication in the UNITED STATES MEDICAL AND SURGICAL JOURNAL, no allusion was made to the supposed condition of the patient, lest it might be thought that the account partook too much of the marvelous. Indeed, the statement of the results accomplished sufficiently taxed the credulity of the profession and public.

The absence of the menstruation for four successive periods gave a strong suspicion of pregnancy, which was confirmed, shortly after the completion of the operation, by the occurrence of "quickening." This supposition enhanced very greatly the intense interest with which the case was watched, not only till recovery followed the operation, but on through to the completion of term, and the delivery, during the holiday week, of a healthy female child, weighing eight pounds. The expression of the patient, a few days after her confinement, was that she "bore her labor as well as ever she did, and, so far, was smarter than ever before" — this being her eighth child.

In order to make clear the description of the process by which the cut ends of intestine were united, it has been thought desirable to add a diagram showing the application of the clamp which is figured upon page 58. Thus at the present time, January, 1870, the case stands an illustration of what may be accomplished by *Homœopathic surgery.*

JULY 10th, 1869, I was called to see Mrs. J. B. Childs, of Lee County, Ill., who was temporarily in our city for a visit, and while at the house of a friend, was taken with most violent pain in an umbilical hernia, which had existed since a severe labor seven years previously. I found the patient of dark complexion, stout built, aged about 40. No evacuation of the bowels had occurred for a week. The violent pain had begun three days before, soon followed by vomiting, which during the last twelve hours had been stercoraceous, with frequent disposition to singultus. On examination a large tumor was found at the umbilicus, the thin integumentary coverings of which were greatly discolored, and were on the point of yielding to the pressure of a considerable quantity of fluid therein contained. The skin and pulse did not indicate any marked peritoneal inflammation, but there had evidently been an unwarrantable delay already in applying proper treatment. Without delay the integuments were carefully incised, and two or three ounces of bloody serum escaped. The blackened intestine was now visible at the opening, and with a grooved director the hernial sac was freely laid open, when I was startled to find so much of the intestine extruded, and the entire mass not only black with discoloration, but at points so far disintegrating as to allow the contents to escape.

The situation was novel, and so far as I could then recall to memory, without precedent, but a moment's reflection satisfied me that the patient's chances for life lay in removing the de-vitalized tissue, and pursuing such further steps as would subject her to the least hazard possible under the circumstances.

I can strongly commend the use of Lembert's suture in all cases admitting immediate union of the cut extremities of intestine, but in this case the extent of intestine to be removed seemed to suggest greater hazard in attempting to join the divided ends of the gut by suture than in establishing an artificial anus, and effecting a cure of this artificial opening so soon as the immediate danger from the first operation had passed. I therefore determined upon the latter course, and with the assistance of two or three of my medical colleagues whom I could hastily summon, the gut was traced to the hernial ring, and finding sound tissue there, divided. Then passing a strong suture, the sound extremity was secured to the integumentary margin of the wound. With a pair of scissors the intestine was cut away from the mesentery throughout its extent until sound intestine was found at the opposite side, where it was again divided, and the sound extremity secured like the former. The mesenteric vessels which were very numerous as may be inferred, gave rise to a pretty smart hæmorrhage at first, but were closed by torsion and the application of ice, until all bleeding had ceased, when the hernia knife was brought to bear on the ring, and this was sufficiently enlarged.

Making sure that the bleeding did not recur on the removal of the pressure which had been maintained by the ring, the parts were returned within the abdomen, leaving the two divided ends of intestine protruding from the abdomen, and lying side by side, where they were secured to the integumentary margin by silver sutures in such manner as to form an artificial anus. During all this proceedure the patient was quietly sleeping under the influence of Chloroform, and I might here add, that, having thoroughly tested Sulphuric ether, Ether and Chloroform mixed, and the more recently discovered Bichloride of Methylene, I have no hesitation in saying that Squibb's Purified Chloroform is, in my opinion, the most desirable anæsthetic known, both as regards efficiency and safety of administration.

During the twelve hours following this operation, the cathartics which had been freely administered by my predecessor in the case were being poured out at the artificial anus, and there was a little disposition to singultus, with some vomiting.

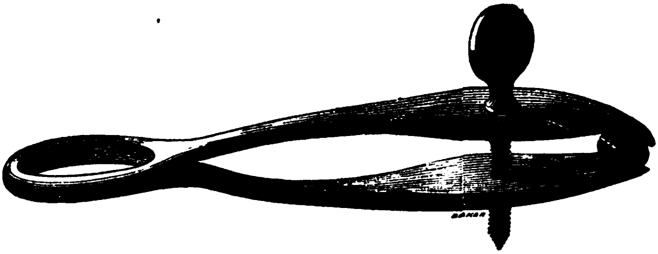
Aconite and *Arsenicum* were administered in anticipation of peritoneal inflammation, and as corrective of the gastric irritation present. I can not too strongly condemn the too prevalent habit of administering opiates to narcosis after surgical operations, believing that they disturb the reparative processes upon which the surgeon so largely depends, and that we have in the higher attenuations of *Coffea* and *Arnica* efficient remedies for the post-operative hyperæsthesia which is sometimes present. During the day following the operation the pulse rose to 120, and there was considerable tenderness of the abdomen, but no tympanites. After the lapse of forty-eight hours this irritation began to subside, the pulse dropped below 90, and I soon had the satisfaction to note the return of a relish for food and of comfortable sleep. It was found necessary to exercise great care in dieting the patient, since the discharge at the artificial anus being altogether fluid, varied greatly with changes in diet; potato and .some other articles of food causing so keen an acridity as quickly to destroy the cuticle with which it came in contact. Beef tea, prepared by the following formula, was made the standard article of diet in this case, the muriatic acid greatly promoting digestion and assimilation:

Lean beef, cut fine, one-half pound.
Cold water, twelve ounces.
Table salt, one teaspoon.
Pure Muriatic acid, four drops.

Stand aside in a covered dish two hours, then strain and pass the liquid again through what remains on the strainer and serve cold.

This preparation, always well borne by the most sensitive stomachs, seemed particularly suited to this case, and the deviations from this were more by way of experiment to test the digestive powers of the stomach and duodenum. A fine field was here presented for the physiologist to note the complete or partial digestion of different aliments by the stomach and duodenum with the upper portion of the jejunum, but upon this field we can not now enter. An examination of the intestine removed showed it to be fully four feet ten inches in length, and to belong to the jejunum.

Upon the subsidence of the inflammatory symptoms and the re-establishment of the digestive functions, the determination was announced to operate immediately for the relief of the artificial anus. Here it was found necessary to depart from the line of established precedent, and there were not wanting those in the profession who, with the author, thought this operation should have been delayed for several months at least, but there seemed no sufficient reason for delay, and so soon as the proper instruments could be made from drawings, I was ready to proceed. A few days delay was asked by the husband of the patient on account of his business, and then, on July 31st, the patient being fully anæsthetized, the extremities of the gut were explored to determine their course on entering the abdomen, the presence of adhesions and the relations of other viscera: a clamp four and one-half inches in length (see cut) the blades of which were oval, three-fourths of an inch wide by one inch and one-fourth in length, and fenestrated so as to leave serrated jaws one-eighth of an inch wide, was then introduced. One blade being passed into each protruding end of intestine until fully within the abdomen, the two blades were locked by means of the hinge joint in the outer end of the handles, and the set screw was introduced. Great care was exercised that only the intervening walls of these intestines should be embraced by the clamp, and the blades were then approximated by the set screw in the handles until slight pain was occasioned. Instructions were given that if nausea or vomiting occurred the clamp should be slightly loosened, otherwise it should be very gradually tightened during the next two days; the object of this pressure being to cause a degree of adhesive inflammation sufficient to unite these intestines. When on the third day the presumption being that this had occurred, firm pressure was applied by the clamp for the purpose of destroying the parts between the blades, and thus make an opening from one intestine through into the other. To make this the more effectual a free incision was made with a gum lancet through the fenestral opening in the blades of the clamp.



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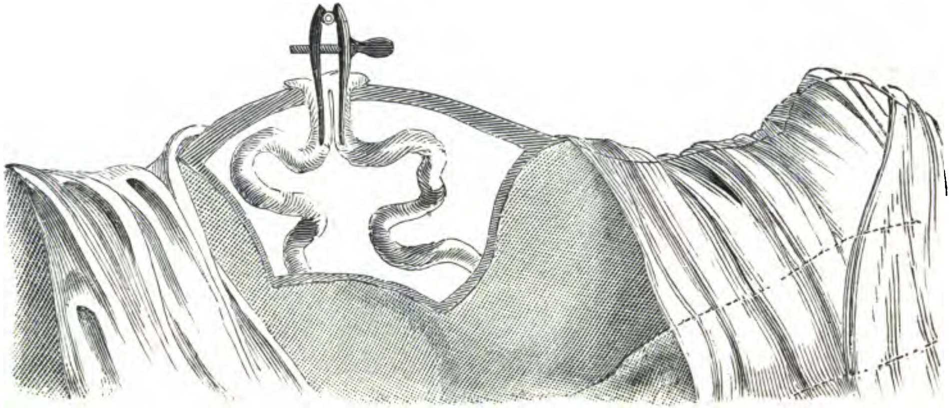

DIAGRAM SHOWING THE APPLICATION OF THE CLAMP BY WHICH THE CUT ENDS OF INTESTINE WERE UNITED.

artificial anus. The lower bowels, including the ileum, colon and rectum, which had been entirely inactive for four weeks, now began to exhibit activity, and from this time the regular daily evacuations of the bowels occurred by the rectum, of a character as entirely normal as those which had characterized her former condition of health. Indeed, a former habit of constipation seemed to have been wholly removed. A digital examination of the point at which the clamp was applied revealed the smooth, rounded edges of the opening produced by the instrument, and it now only remained to close the integumentary opening of the artificial anus, which was done August 6th, by deeply set quilled sutures of silver wire, and the patient returned to her home in the central part of the state, leaving my cabinet enriched by a pathological specimen which is as highly prized as it is rare.

This case is perhaps without parallel in the records of surgery as regards the amount of intestine lost and the immediate relief afforded from the artificial anus.

A case is recorded by Cheselden* something like 200 years ago. "Where a Woman labouring under the *Exomphalis*, the Part Mortify'd, and the Gut thrust out twenty-six Inches and a half, being also perished he cut off; after which, as the Ulcer healed, the End of the Gut hanging out thereat, made a kind of *anus*, through which her excrement comes out."

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* Turner's Surgery. London: A. D. 1734. Vol. II. P. 483.

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From no other source can the surgeon derive that confidence in the use of the knife in extreme cases which comes from a knowledge of the resources of the Homœopathic *Materia Medica.*

OPERATION

5

FOR

Strangulated Umbilical Hernia.

REMOVAL OF FOUR FEET TEN INCHES OF INTESTINE.

BY G.aylord D. BEEBE, M. D.
OF CHICAGO, ILL.

Reprinted from the Sixth Volume of Transactions of the New York State Medical Society.

ALBANY:
THE ARGUS COMPANY, PRINTERS.
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The absence of the menses for four successive periods, gave strong suspicions of pregnancy.* The skin and pulse did not indicate any marked peritoneal inflammation, but there had evidently been an unwarrantable delay already in applying proper treatment. Without delay the integuments were carefully incised, and two or three ounces of bloody serum escaped. The blackened intestine was now visible at the opening, and with a grooved director the hernial sac was freely laid open, when I was startled to find so much of the intestine extruded, and the entire mass not only black with discoloration, but at points so far disintegrating as to allow the contents to escape. (Fig. 1.)

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* The patient quickened during the week following the operation for closing the artificial anus.

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An examination of the intestine removed (figure 2) showed it to be fully four feet ten inches in length, and to belong to the jejunum.

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* Turner's Surgery, London, A. D. 1784; vol. II, p. 483.

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It remains for the patient to complete her term of pregnancy, and be delivered in December, an event of more than usual interest under existing circumstances.

It is no less amazing than gratifying to witness the happy effects of homœopathic remedies in controlling the constitutional disturbances consequent upon grave surgical operations; and seldom have those effects been more happy in my hands than in the present case, where the late stage at which the case came under proper treatment as indicated by the hiccough and prostration, the extensive cut surface of mesentery returned within the abdomen, and the brevity of the viscera available for digestion and assimilation all united to make the prognosis unfavorable.

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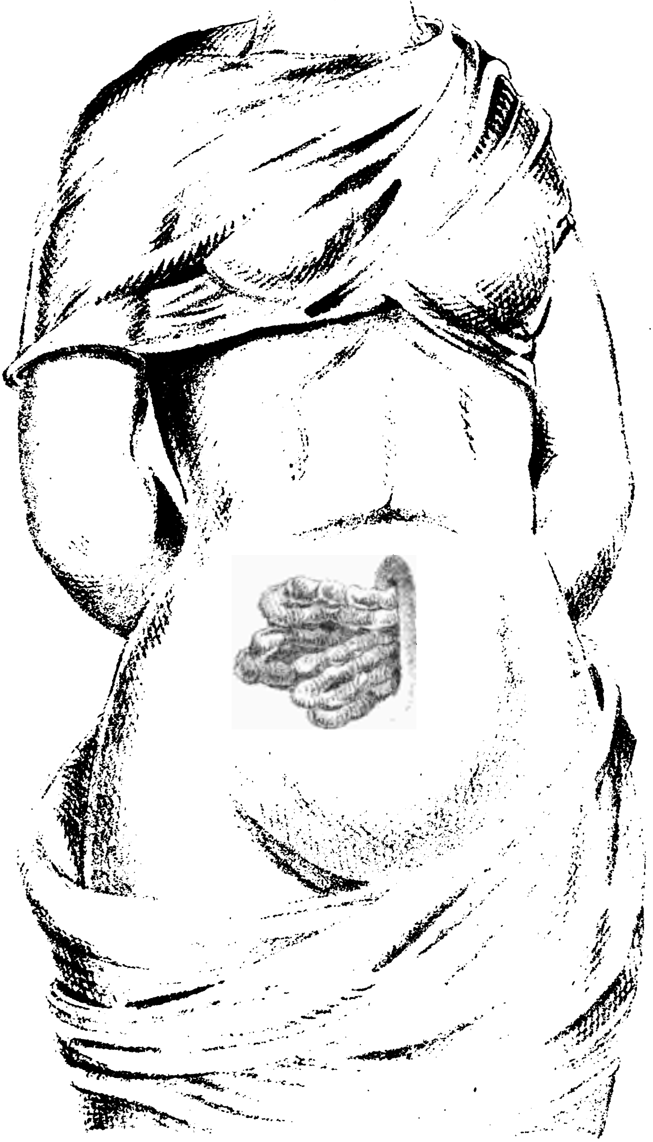
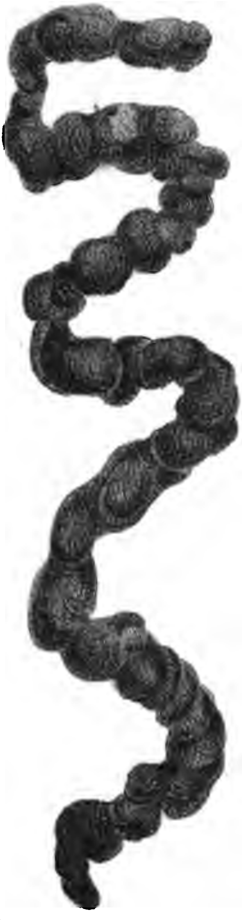
Fig. 1.



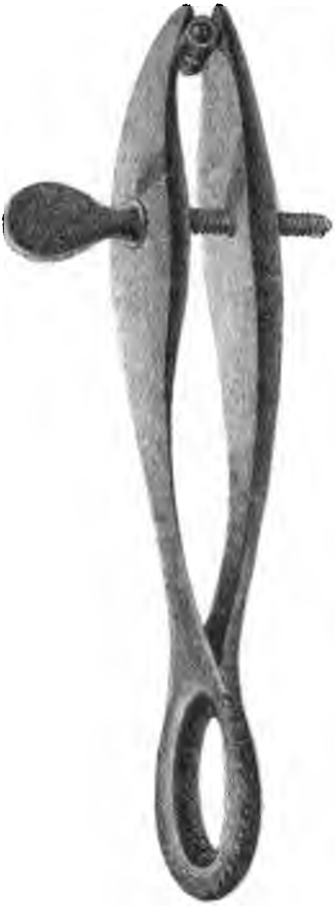
The Hernial Sac laid open, exposing the Gangrenous Intestine.

Fig. 2.



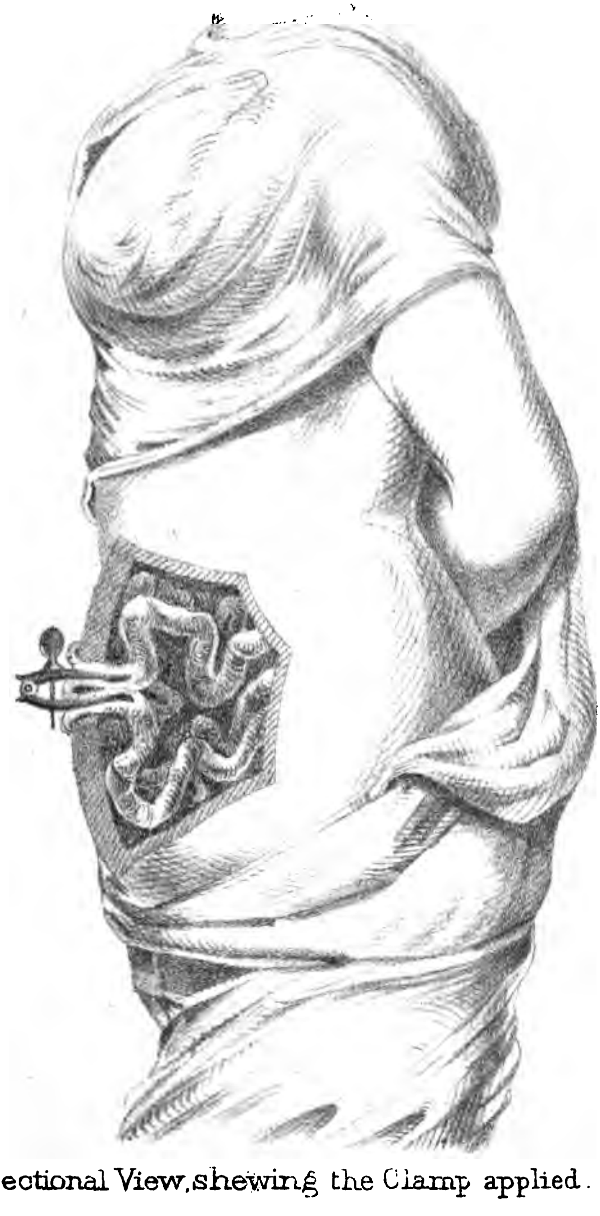
The Portion of Intestine removed. Photographed from the wet Preparation in Dr. Beebe's Cabinet.

Fig. 3.



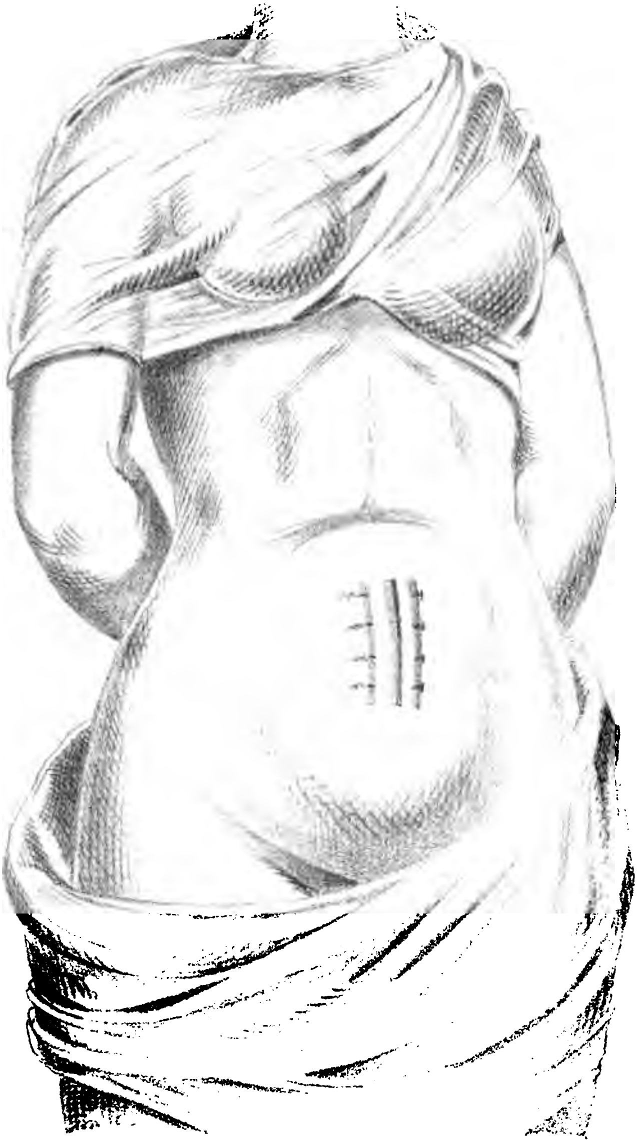
The Clamp. (Full size.)

Fig. 4.



Sectional View, shewing the Clamp applied.

Fig. 5.



The artificial opening, closed by quilled Satures of Silver Wire.

6

A CASE

OF

ANCHYLOSIS OF THE HIP JO

OF

FOURTEEN YEARS DURATION.

Successful Operation for the Formation of False

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By A. G. Beebe, A. M., M. D., Chicago.

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[*Reprint from* The Medical Investigator *of January*,]
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R.R. DONNELLEY
THE LAKESIDE PRESS
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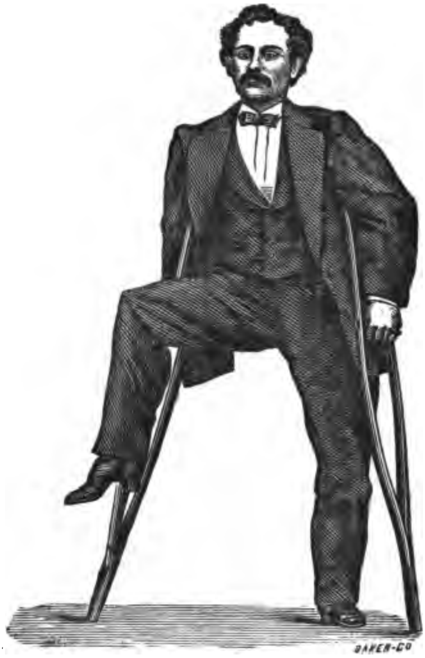
A CASE OF

BONY ANCHYLOSIS OF THE HIP JOINT

OF FOURTEEN YEARS DURATION.

FORMATION OF FALSE JOINT—RECOVERY.

Louis Le Petre, of Chicago, a musician, 28 years of age (at the time of the operation), was attacked when 14 years old by acute osteitis of the right hip joint and upper portion of the shaft of the femur; the result of the injudicious use of Mercurial ointment (for psoriasis) and subsequent exposure. This resulted in confining him to bed for several months, during which time he suffered from quite extensive necrosis and exfoliation of the bones composing the hip joint, (with the consequent abscesses and sinuses common to such cases,) and severe phlebitis affecting the entire extremity. During the progress of the disease the flexor muscles became contracted, as we should expect, and when the patient was at length able to leave his bed he found the thigh immovably fixed in the position it had assumed while lying upon the back with the knee drawn up and at the same time resting upon the bed, *i.e.*, when erect, the knee was somewhat higher than the hip, and projected directly outward from the right side. In this position it had remained for about fourteen years, or until the spring of 1871, when I first saw it. This cut was engraved from a ferrotype taken but a few days before the operation.

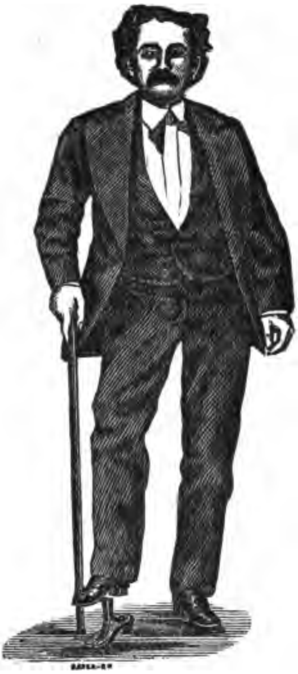


Upon examination there was every evidence of perfect bony anchylosis. There were several large cicatrices in the vicinity of the joint and upon the anterior aspect of the thigh; the principal one penetrating the belly of the rectus femoris, and uniting it firmly to the fascia lata. The angular space between the femur and pelvis was entirely filled by a dense plastic exudation, which extended down as far as the middle of the femur, and was so firm as to be mistaken, by at least one surgeon who examined it, for an enlargement of the bone itself. The case had been examined by most, if not all, of the prominent surgeons of this city. One had, at first, ventured to suggest the possibility of dividing the bone and securing anchylosis in a straight position; but, upon noticing the exudation before mentioned, gravely shook his head and had nothing to offer. Another thought amputation at the hip the only surgical resource, and the remainder thought it best to let it alone. This, however, the patient, being a young man with a future before him, was not willing to accept, and when I told him I thought he might yet have a useful hip joint and throw away his crutches, he seemed inclined to accept my view of the case.

Accordingly, on May 22, 1871, assisted by Drs. G. D. Beebe and J. A. Steele, I proceeded to operate. The case was, I believe, entirely *sui generis;* not only as regarding the extreme displacement but also the condition of the adjacent tissues. The position of the bones, especially the abduction, forbade the operations either of Barton or Sayre. The same complication, as well as the uncertainty as to the condition in which the bone would be found, precluded the employment of the subcutaneous method of W. Adams. I therefore determined to cut down behind the trochanter major and, if possible, pass a chain saw about the neck of the bone and divide it, leaving all the muscles inserted into the trochanters nearly intact, thereby securing as perfect voluntary motion of the new joint as possible. The incision employed was crescentic in form and about six inches in length, with the convexity directed forward toward the trochanter major. The various steps of the operation were, after some perseverance, accomplished. The joint was found to be totally obliterated, as if the head of the femur had been fused into the socket. So much of the neck as remained attached to the innominate was removed by bone forceps, and the upper extremity of the femur was allowed to slide upward and backward as in dislocation upon the dorsum of the ilium. This, of course, somewhat relaxed the contractured femoral muscles; the tendons of some of the more prominent ones were also divided subcutaneously, but even after this the plastic exudation about the thigh prevented it from being brought down very much nearer its natural position. No vessels, requiring attention, were divided, and no hæmorrhage of importance occurred. The incision was closed by interrupted sutures of silver wire and covered by antiseptic dressings. The patient reacted well from the *Chloroform*, having been under its influence about one hour and a half. During the first ten days nothing of special interest occurred. The dressings were rendered difficult and painful, (as, indeed, was the whole of the patient's experience while in bed,) by the fact that when lying on the back the weight of the body rested heavily on the wound, and made it necessary at every dressing, or more frequently, for relief, to turn him on his face, and in doing so the position of the parts was more or less disturbed. However, by the end of ten days the incision had apparently united and the sutures were gradually removed. In a day or two afterward the line of the incision began to reopen, and by the 3rd of June the wound was gaping widely, showing in the deeper portion a large blood clot which had evidently produced the disturbance. This was, in part, carefully removed, and the wound drawn together as well as possible by adhesive straps.

On June 4th, I was summoned in haste to see him, about two hours after making my morning visit, and found bright blood flowing abundantly from the wound, so much having been already lost that he had fainted once or twice, and was becoming nearly exhausted. Passing my finger down to the bottom of the wound, I became satisfied the hæmorrhage came from the cancellous tissue of the divided bone, or from granulations immediately in the vicinity, and at once thrust down upon the bleeding surface a pledget of lint saturated with a solution of the *Persulphate of iron.* This arrested the bleeding, but it recurred two or three days later from the motion of turning the patient over, ceasing before I reached him to interfere. Following this, and partly in consequence of his being compelled to remain immovably in one position for so long a time to avoid hæmorrhage, phlebitis supervened, affecting the entire thigh and leg, with some tendency toward erysipelas; but this was all controlled, in the course of a few days, without any injury, beyond the formation of two or three small superficial abscesses, which healed readily. Notwithstanding these untoward events, and the depressing effect of a hot season, the patient was able to be out of bed at the end of eight weeks, and was walking about, with the aid of crutches, in two weeks more.

During the time since the operation, the plastic deposit in the groin had been gradually giving way. At one time it presented very much the appearance of a cake of ice broken in pieces, and traversed in all directions by wide fissures. This was nearly all gradually absorded, though the process required some months for its completion, as was expected. The limb was, by degrees, coaxed down into a more natural position, and, when well enough to bear it, a weight and pully were employed to assist in the process. When the patient was able to be up throughout the day a modification of Sayre's short extension splint for the hip was substituted for the weight, which was sometimes attached at night.



By the time cicatrization of the wound was completed, or about the middle of August, the new joint at the hip had become sufficiently solidified to enable the patient to bear nearly his entire weight upon it. It also admitted considerable voluntary motion, showing that the most important of the muscles had been preserved. Since that time up to the present, (Dec., 1872,) the improvement in all respects has been gradually progressing, and the appearance is fairly represented by this illustration, drawn from a ferrotype taken December 9th, 1872.

He now walks readily up and down stairs, or on a level, gets in and out of vehicles, etc., with only a cane. The actual shortening of the limb is about 2½ inches. This is due, in part, to the fact that it did not keep pace with the other in development, being thrown out of use and affected by the disease for so long a time, and, of course, there is a displacement of the femur backward and upward, so far as the ilio-femoral ligament will allow, or probably, in this case, about two inches. It will be noticed by the engraving, however, that he wears a step about five inches in height; and this is rendered necessary partly by some degree of flexion at the hip, maintained by the contractured muscles and fascia, and also by a marked obliquity of the pelvis, which is quite apparent in this position. This obliquity resulted, evidently, from contraction of the abdominal muscles of the affected side in carrying this limb off the ground for so long a time, and the natural tendency to throw the center of gravity of the body as nearly as possible over the point of support, *i.e.*, the sound hip joint. This position, of course, produced a very marked lateral curvature of the lumbar spine, which has become pretty solidly anchylosed in this position. Probably the reparative efforts of nature, aided by an appropriate apparatus, will, in time, still further remedy these conditions. The joint is now quite freely movable, or to the extent of 45°. It is not sensitive, and gives no pain from use, even when sustaining the entire weight of the body. In short, the artificial joint is as successful as any of the few other cases on record, and promises to be more permanently so, as the socket formed for the femur is partly in the gluteal muscles, and partly from the surface of the dorsum ilii, and offers no opportunity for future anchylosis, as has happened, sooner or later, in most, if not all, of the cases by Barton's or Sayre's methods.

So successful a result in a case presenting such unprecedented complications, certainly encourages the hope that much might be done in many cases now abandoned as hopeless; although no small influence favorable to success in this case was, undoubtedly, exercised by the excellent constitution, temperate habits and unflinching courage of the patient, as well as by carefully selected homœopathic remedies. ALBERT G. BEEBE.

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A REPORT OF CASES

TREATED BY

ABDOMINAL SECTION.

BY.

enjamin ranklin

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In this report I have aimed to furnish a concise history of twenty consecutive cases operated by abdominal section in my private hospital, or at the gynæcological clinics in the Hahnemann Hospital of Philadelphia.

It may be stated that, until within a period of six months, it was believed that the risk from the presence of a large class of students would not justify an operation of this character during the regular clinic hour, but by dividing the class into sections of from ten to fifteen to witness an operation, the risks have been somewhat diminished, and, with the assistance of willing and intelligent nurses who have been personally instructed, I can report all clinical cases as having recovered.

That special hospital facilities, and experienced nurses, are necessary for the successful treatment of patients requiring abdominal section, is too well known to need mention. If additional proof was required, I might point to the fact that from my total number of hospital cases only one death has occurred, if I may exclude patients found to be suffering from malignant disease at the time of the operation, whilst a much larger number operated on at their homes give a much greater percentage of mortality. This has been attained mainly on account of inadequate facilities, but it is also due to the fact that many of them were too much reduced in health to justify the risk of removal to an institution adapted to their requirements.

With regard to such patients, it has been a question for serious consideration, in every instance, whether or not they were beyond the pale of the surgeon's resources when his services have to be solicited. Yet, when every other means had failed, and an operation was eagerly desired, a fear of increasing an individual mortality rate has not deterred me from using the best surgical means at my disposal in the hope of affording relief.

Those desperate cases of long standing, for which so little can be done, have forced home the conviction that from diseased tubes and ovaries such serious mischief arises as to warrant their removal in the earliest stages of the affection, whenever other well-directed efforts fail to bring relief, and, whilst Tait's operation may be resorted to, at the present time, in too many instances, it has a wide range of application, the scope of which may be narrowed but will never be annulled. The efficacy of our system of treatment may be all that can be desired in the early stages of the affection, but when serious havoc has been wrought, and until we know from experience just where the obstacles become insurmountable by medicinal means, who shall draw the line that shall restrict the operation to its narrowest limits?

Case 1 was about 47 years of age; the menses having ceased for nearly two years. She was unmarried; almost constantly bedridden from pelvic pain and functional disturbances of the rectum and bladder, due to the presence of two large-sized tumors situated on either side of the uterus, which, with this organ, seemed to fill the pelvis completely. A vaginal examination was extremely painful, and the passage of the finger into the rectum proved that it was encroached upon by a firm body which was quite immovable. One of the tumors, at the side of the uterus, seemed somewhat soft, and felt as if it contained a fluid within a thick capsule. At the time of the operation at my surgical rooms, both tumors were found to be fibro-myomas—one quite soft, the other more firm, and both intraligamentous. Considering the difficulties to be encountered in the effort to enucleate them from their beds in the broad-ligaments, and the fact that under favorable circumstances they might diminish in size at her time of life, the fingers were insinuated behind the tumors in the pelvis, and they were lifted to a more favorable position in front of the sacral promontory, and the abdominal incision closed. Recovery was uninterrupted; and since that time the tumors have diminished in size, the pelvic distress has never been of much consequence, so that she was able to spend the summer in Switzerland, and since her return last fall has had but little to complain of excepting the results of an attack of *la grippe* last winter.

Tait and others have called attention to the improvement which has often followed abdominal section without extraction, in such cases, and it has been difficult to account for it in many instances; perhaps, however, more is to be attributed to the influence the manipulation has upon their vascular supply than to anything else.

Case 2 came under my care at the 6th month of a second pregnancy. A cystic tumor had been diagnosed by her physician immediately after her first parturition. This could now be outlined as a thin-walled cyst to the right of the enlarged uterus. Per-vaginam, the lower part of the cyst, could be felt back of the uterus, and the question of removal for fear of some interference with parturition was seriously considered. In arriving at a conclusion upon this subject, as well as during the subsequent operative treatment of the case, I availed myself of the counsel of Dr. C. M. Thomas, and it was decided to await developments before interfering, as the tumor did not seem to be seriously encroached upon by the pregnant uterus, and consequently there was no immediate danger of rupture.

Parturition was apparently normal, and no complications ensued during the lying-in period.

At first the cyst wall could be outlined only after considerable searching, as it seemed to be attenuated and but partially filled with fluid. After awhile it became more tense, and occupied a high position in the abdominal cavity. If it was ovarian in origin I decided that it had formed attachments during gestation which did not permit of its descent, and as it was growing, it was deemed best to remove it.

As soon as the abdomen was opened the cyst was found to be of renal origin, due to an occlusion of the ureter, from which dilatation of the pelvis of the kidney had ensued, followed by atrophy of all the remaining kidney structure as the accumulation increased.

By stripping off the peritoneal covering of the hydronephrotic cyst, the tumor was enucleated, and a stout silk ligature was passed around the renal vessels, which form a pedicle; after which the mass was cut away. An opening was next made in the flank, through which a drainage-tube was passed from the bottom of the peritoneal sack. The latter was closed at the top by means of interrupted sutures of catgut, and the abdominal walls brought together by silk-worm gut. No difficulty was experienced from the use of ether as an anæsthetic in this case, as we might expect when the functional action of the kidneys is impaired.

There was everything in the mental status of the patient to promote her recovery; being very hopeful, trustful and obedient, she progressed finely. The highest temperature indicated by the thermometer was 103° F. on the twenty-second day, when a pocketing of pus about the drainage-tube called for dilatation and the introduction of a larger tube, after which more perfect drainage was effected until the sack was entirely closed.

The quantity of urine secreted from the remaining kidney, after food was admissible and moderate draughts of water partaken of, measured from fifteen to twenty ounces in the twenty-four hours.

I considered it fortunate in this case that the kidney structure on the diseased side had almost entirely disappeared from depression due to the accumulated urine within the sack before the operation, as the extra tax upon the remaining organ had been so gradually imposed, that there was no sudden call upon its resources at the time of the removal of the cyst.

Since the operation the patient has given birth to another child without serious complications from impairment of kidney action. At no time did she seem to suffer from uræmic toxæmia. One month before parturition she passed about thirty-five ounces of urine per diem, of a specific gravity of 1019. Total solids 48 + grams (normal between 60 and 70) = urea 21.29 grams (normal 30 to 35 grams), without albumen or casts.

Four months after parturition the specific gravity of the urine was 1033, and the quantity increased with the amount of urea almost normal. The patient's health has been very good ever since.

Case 3 suffered from obstruction of the bowels, with vomiting and intense pain, due to an ovarian cyst of about two years' growth. She was anæmic, jaundiced and a sufferer from heart disease. After getting her into as favorable a condition as possible, she was operated on at my surgical rooms and the cyst found to be universally adherent. Before it could be enucleated, the heart's action became so weak that it was thought best to discontinue the efforts at extraction. After cleaning out the cyst as well as possible, a drainage-tube was introduced, the walls stitched to the abdominal incision, and the patient put to bed. The pulse was gradually re-established at the wrist, and in a few weeks she returned to her home in the centre of the State. After a time she began to show signs of septic infection, and died about two years from the time of the operation without affording us another opportunity to attempt the enucleation of the tumor.

CASE 4 was unmarried and about 27 years of age. She suffered intensely from dysmenorrhœa and pelvic pains, from which she became a confirmed invalid. The uterus was enlarged and the lymphatic glands of the neck, axilla and also of the pelvis were swollen and very painful. It was decided to remove the ovaries to induce a cessation of the menses. Peritonitis developed soon after the operation and ended fatally on the seventh day.

CASE 5 was married, but sterile. The menses had been irregular and the abdomen enlarged from the development of an ovarian cyst for several months. At the operation two ovarian tumors were removed, after which recovery was speedily affected and perfect health restored.

CASE 6 was a married woman about 40 years of age and the mother of a large family of children. She had always been delicate and subject to profuse menses. Medicines and mechanical means had all been tried, with only temporary benefit. An enlargement of the right ovary manifested itself soon after a miscarriage, with profuse hæmorrhage, but diminished in size, as the process of involution was completed in the uterus, until it was about as large as a hen's egg, but very sensitive to touch or pressure. At the time of the operation the left ovary contained one blood-clot about the size of an English walnut, and another, somwhat smaller, covered over by a thin layer of ovarian tissue. In the right ovary there was a cavity which had evidently resulted from a similar hæmatoma of more remote origin that had undergone degenerative softening and partial absorption. Both ovaries, with their corresponding tubes, were removed. Recovery was prompt and menstruation has ceased entirely for over a year. The patient being relieved of her hæmorrhages has gained in strength as well as weight, and is able to look after the interests of her family as she has never done before.

Many illustrations might be given in this report of the efficacy of homœopathic medication after abdominal sections. One is noteworthy in this connection; as is mostly the case after an oöphorectomy, a slight discharge of blood occurred on the third day, like a menstrual flow, which was attended with intense backache and pelvic pain, frontal headache and depression of spirits. Puls. 30 was prescribed in water, and one dose sufficed to relieve her of her discomfort, so that she passed a quiet night and had no return of the symptoms afterward.

Case 7 was a married lady about 48 years of age who had frequently suffered from attacks of pain in the abdomen due to impaction of fæces, associated with violent headache. An examination was made about seven years ago, at which time I detected an enlarged ovary and advised her to put herself under treatment. But this advice was not followed until the early part of last spring, when the abdomen began to enlarge rapidly and the tumor was surrounded by a quantity of ascitic fluid, which at times would entirely obscure its outlines. With the rapid increase in both the size of the tumor and the quantity of fluid in the abdomen the patient's sufferings became intense, and it was found necessary to bring her from the country in July and operate on her at my private hospital. When the incision was made a large quantity of ascitic fluid was liberated before the cyst could be seen. It was then emptied of its contents and removed. A drainage-tube was used, through which further accumulations of ascitic fluid could be evacuated. This dropsical fluid was obtained in large quantities from the tube at first, but it gradually decreased in quantity until it ceased entirely, and the tube was removed during the third week. The patient's health is now completely restored.

Case 8 was a young unmarried lady who suffered from pelvic pain due to the development of a cyst of the broad ligament which would gravitate into the cul-de-sac of Douglas with its corresponding ovary and become more or less firmly impacted behind the uterus. The only support that afforded any relief was a soft rubber ring, which had to be readjusted every few weeks, or supplanted by cotton tampons, until the organs would again tolerate it. The removal of the tumor with the tubes and both ovaries, which latter bore evidences of cystic degeneration was effected at my private hospital in November. Recovery was uninterrupted except from an attack of enteralgia, with symptoms of obstruction of the bowels, which had to be relieved by means of forcible injections through a long tube, which was passed high up into the bowel. The patient now expresses herself as being free from pain and stronger than she has ever been. Her health seems to be perfect.

Case 9 was a patient who had always suffered from violent dysmenorrhœa. She was unmarried, about twenty-three years of age, and incapacitated from doing anything by which she could earn a livelihood, by the recurrence of pains which set in a week before the flow; lasted continuously during the week of the flow, and remained to harass her for a week after the flow had ceased. She was thin, pale and discouraged. Both ovaries with the tubes were removed in November, before a small class of students. After the operation great difficulty was experienced in getting the bowels to act, and for weeks care had to be used in the selection of food or the bowels would become clogged, and vomiting with severe pain ensued. Purgation was followed by paresis of the bowel and left her in a worse condition than before. With sulphur, alumina, bryonia and other remedies, this condition was improved, and three months after the operation she was perfectly well, and stronger and healthier-looking than ever before. There has been no menstruation, consequently no pain, and the bowels are much less constipated than formerly.

CASE 10 was admitted to the Hahnemann Hospital, with a diagnosis of ovarian cyst. Subsequently there were evidences of suppuration, such as a recurrence of chills, followed by fever, burning in the tumor and tenderness, with redness of the skin over the seat of disease. When the abdomen was opened, a medium-sized ovarian cyst presented itself to view. It was readily removed, as there were but few adhesions. The patient's recovery was somewhat retarded by an attack of pleurisy, induced by leaving off an undervest at the time of the operation, which was not detected for several days afterward. After this, recovery was completed, without further complications. Bryonia, followed by sulphur, cured the pleurisy.

CASE 11 was a married woman, the mother of several children. Her case presented many of the symptoms of abdominal dropsy. She was brought before the class for an examination, and I was able to diagnose an abdominal tumor. Although there was dulness over the most dependent part of the abdomen, and sagging at the flanks in the dorsal position and a fluctuation thrill on combined percussion and palpation of the abdominal walls, I could detect the outlines of a mass within the abdominal cavity which indicated the presence of a tumor. At the time of the operation, the cavity of the abdomen was filled with a gelatiniform mass, without any distinct enveloping membrane. This mass had to be scooped out with the hand, and when it was removed, no trace of a tumor was left but the nutrient vessels which formed a stalk-like pedicle that could be traced to the pelvis. This was ligated near its point of origin and cut away. The patient recovered slowly, and is now in good health.

It is likely that the growth commenced in the organ of Rosenmüller, and that in its development it separated the folds of the broad ligament, and carried the ovary with it into the abdominal cavity as was also the case with the bladder which became adherent to the anterior wall of the abdomen above the symphysis pubis. When the abdominal incision was made, and the peritoneum reached, it was found much thickened and had incorporated with it a fine structure which proved to be the bladder-wall. This was cut into, so that the finger passed directly into that viscus. In opening the abdomen above this point, I reached and cut through a mass which was adherent as closely to the peritoneum as the bladder was at a point lower down; this resembled ovarian tissue, and I believe it to have been carried upward by the growth from below and deposited against the anterior wall of the abdomen, to which it became firmly adherent, and as it received its nutrient supply from the seat of attachment, and was deprived of all nerve connection with the uterus, it was allowed to remain, for its dislodgement would have left a raw surface devoid of peritoneum as large as the palmar surface of a man's hand.

The incision into the bladder was treated by the introduction of interrupted catgut sutures to the mucous membrane first; then a continuous suture of prepared silk was used to approximate the muscular wall, after which the usual silk-worm gut sutures were used to close up the abdominal incision. A drainage-tube was introduced into the peritoneal cavity, and a catheter worn in the urethra to prevent the bladder from filling. The latter was removed in about five days, and no vesical symptoms were ever complained of. Through the drainage-tube a considerable amount of the jelly-like material was obtained for several days after the operation, showing how difficult it was to get all of this material away by irrigation during the operation. In this case the connective-tissue corpuscles seemed to have proliferated and formed embryonæ-like cells, which were completely transformed by colloid degeneration into a jelly-like mass entirely homogeneous throughout.

The early ovariotomists considered such a condition due to malignant disease, and in Case CXVII. of Atlee's work on ovarian tumors, we find a description of "a colloid tumor of the abdomen mistaken for ascites, and also for ovarian dropsy, tapped, removing a substance resembling calf's-feet jelly, and death five days after," which resembled the case under consideration in many particulars. Atlee says of his case that fluctuation was distinct, but gave the impression of a thick heavy fluid. When tapped, no fluid escaped, and, surprised at this, a female catheter was introduced through the canula, and by moving it about he felt it break up a delicate network within, and detach some of the jelly-like substance. The patient died before an operation was performed, and from subsequent experience he looked upon this case as one of malignant colloid tumor of the abdomen, without any relation to the ovary. Whilst this form of tumor may originate from other than the ovarian site, its development in the manner indicated in this case should not be overlooked, for by the agglutination of the attenuated peritoneal surface with the abdominal peritoneum, its apparent seat of attachment may mislead the operator as to its origin.

CASE 12 was a colored woman from Virginia, about forty years of age, who suffered from a fibroid uterus and a cyst of the right broad ligament. At the operation the intestinal adhesions were found to be general, but after dissecting them away from the fibroid the pedicle of attachment with the body of the uterus was reached, the constricting wire of the ecraseur made to circumscribe it, and it was removed. The way to the cyst of the broad ligament was now open, but as it had no pedicle, and was without a capsule that could be found, and adherent to the pelvic walls and intestines, it was tapped and drained with the hope of having the opposite walls become adherent, as is often the case with such tumors when they are tapped without an abdominal section.

With the écraseur constricting the stump, it was dressed extra-peritoneally with fresh dry Monsell's solution, and then iodoform and iodoform gauze as a protective, and allowed to slough away by tightening the constricting wire of the ecraseur daily. The stump sloughed off in about ten days after the operation, leaving a large suppurating surface. A few days after this, whilst administering an enema, the nurse found the contents of the bowel passed through the wound, and a fistula was formed. Alongside of this fistula was another opening, which led into the broad ligament cyst, which was not entirely closed. The patient was allowed to remain in the hospital until she was ready for another abdominal section to close the intestinal fistula (see Case 19).

CASE 13 came from Belvidere, N. J., and complained of a great amount of ovarian distress and debility during the menstrual flow, from which she had become a confirmed invalid. The uterine appendages were removed by abdominal section, and she recovered without an unfavorable symptom. From her physician I have learned that she has less of the debility, having grown stouter, but is quite nervous, a condition which is likely to remain until the symptoms of the premature menopause have subsided.

CASE 14 was under my care at the Hahnemann Hospital two years ago. At that time she was tapped, and a large quantity of clear, straw-colored fluid was drawn off from a cyst of the broad-ligament. This having refilled so as to cause her much discomfort I proposed to remove it by abdominal section, which she consented to. A speedy recovery was effected after the operation.

CASE 15 was a colored woman with a fibroid uterus and sterile. She suffered from pain and menorrhagia. The abdomen was opened, the ovaries removed and the upper parts of the broad-ligaments were ligated to cut off the vascular supply as much as possible. When she left the hospital the menstrual flow had not been abolished but was less profuse than before.

CASE 16 was a widow, aged 67 years, who had suffered a long time from a fibroid tumor of the uterus. I was summoned by her physician at Fox Chase to visit her, and found her subject to attacks of great pain and occasional metrorrhagia. She desired to come to my private hospital. Upon her admission I soon learned that the abdominal walls were infiltrated with cancerous tissue, and informed her that an operation for the removal of the tumor could not be curative. She assured me she would never leave the institution until some means were used to relieve her. I cut down through the hardened cancerous tissue on the front of the abdomen and reached the tumor; this had also undergone cancerous degeneration, and was removed with the entire uterus and ovaries. The pedicle was clamped and brought out through the abdominal incision, and dressed as the pedicle in case 12. She suffered no pain or inconvenience after the operation, but having no desire for food or apparent ability to digest it, nutrient enema failed to sustain life, and she died on the fourth day after the operation.

CASE 17 was a case of gonorrhœal Fallopian salpingitis and perioövaritis in a young unmarried woman, about 20 years of age. She had been attended as an out-patient by the clinical assistants in the dispensary, and when she was admitted to the hospital had a temperature of 104° F., with *la grippe* symptoms. When these subsided the old peritoneal inflammation caused her much distress, and, as menstruation was very painful, an abdominal section was resorted to. There was a considerable amount of plastic lymph, which agglutinated the pelvic organs together, but this was easily broken up except upon the left side, where there was a mass which bound the intestines to the pelvic walls, and in which the ovary was lost. The entire ovary and the tubes were removed. Recovery was promptly effected, but when she last reported she was suffering from considerable pain at times in the left side of the pelvis. Perhaps I should have persisted in the effort to remove the other ovary, although at the risk of stripping the peritoneum off the intestine.

CASE 18 was an unmarried lady, 63 years of age, a patient of Dr. W. W. H. Neville. By the courtesy of Dr. Crosby, of Atlantic City, I examined the case several years ago, and found her suffering from a fibroid tumor of the uterus. As but little inconvenience was complained of at that time, and because her former physician, Dr. W. L. Atlee, had advised her never to consent to an operation, but little was said respecting this method of treatment. But whilst in the Catskill Mountains last summer her suffering became much more severe, so that vesical and rectal tenesmus was intense, and such loss of rest at night ensued as to seriously impair her health. At the request of Dr. Neville I saw her, and whilst she was relieved temporarily by medicines, I failed to see any prospect in the future for her that was at all encouraging without hysterectomy. She gladly accepted my proposition to attempt this operation, after all the difficulties and dangers were explained to her, and she was brought to my private hospital. The fibroid had softened and developed rapidly during the past few months, so that it would almost fluctuate. It grew from a broad base upon the posterior wall of the uterus, so that the uterus, tumor, and left Fallopian tube were removed together. The hand was next passed to the bottom of the pelvis, when another tumor was detected which had been overridden by the fibroid. This was tapped and found to be a dermoid cyst filled with hair, skin and bone, with a quantity of fatty matter.

Upon attempting its removal it was found to be adherent to the pelvic wall, but as the adhesions were friable it was torn away, when a ragged disintegrating surface was exposed to view, which showed too plainly the malignant degeneration which was going on. Bleeding was stopped by hot water after all shreddy masses were removed. The abdominal cavity was well washed out, a drainage-tube introduced to the site of the attachment of the dermoid cyst, the uterine stump dropped back into the pelvis, and the abdominal incision closed by silk-worm sutures.

The patient suffered but little from shock, and for some time she progressed very satisfactorily, except that very offensive discharges were obtained from the drainage-tube. In five weeks after the operation she was moved from the bed to the lounge and back again, but one night I was summoned by the nurse, who informed me that she had had a convulsive attack followed by trismus. I etherized the patient, opened up the abdomen sufficient to introduce my finger, and washed out the peritoneal cavity thoroughly and drained it by turning her on to the side, but could find no trace of pus. Several medicines were prescribed, and enemata containing chloral hydrate were administered per rectum, but the patient succumbed in two days without any abatement of the lock-jaw. At the autopsy it was learned that the site of dermoid attachment had been hedged about by a wall of lymph, through which there was no opening save that for the drainage-tube, but within this closed sack the tissues were all disintegrated. A microscopic examination, made by Dr. E. W. Mercer, proved that the dermoid cyst had undergone cancerous degeneration.

CASE 19 was operated by abdominal section, in order to close an intestinal fistula resulting from a slough after a previous myomatomy (Case 12). The opening was closed by Lembert sutures, the small cyst that was left in the broad ligament was drained and the tube left in the cavity. Alongside of this the intestinal fistula reformed in a few days, but gradually closed before the patient returned to her home in Virginia.

CASE 20 was a patient aged 67 years, who had always led an active life, but was never considered robust. She suffered from dysuria, attacks of diarrhœa and rectal tenesmus, with vomiting and indigestion. After having relieved many of these symptoms with medicines the abdomen began to swell, so that she was unable to either sit or lie with comfort from the fluid accumulation within. Her appetite became impaired and emaciation progressed rapidly, so that relief from the fluid accumulation in the abdomen seemed to be urgently demanded. Anteriorly the abdomen protruded like the segment of a cone. On the sides there was resonance upon percussion and dulness in the anterior part when in the dorsal decubitus. Being satisfied of the necessity for an evacuation of the abnormal accumulation, I decided to make an exploratory incision and be prepared to remove all that could conduce to the relief of the patient's sufferings. She was informed of my decision, and after some consideration reached the conclusion that she would go into my private hospital for treatment. The abdomen was opened by a small incision, and a quantity of clear ascitic fluid liberated. Through the opening the finger was introduced into a cavity bounded by intestines fastened to the abdominal parietes laterally and posteriorily, and by a deposit of cancerous material which had also extended to the stomach and liver, producing a well-defined boundary for the ascitic fluid which had accumulated within. After the evacuation of the fluid the incision was closed and the patient put to bed. It was at least gratifying to those who knew of her great discomfort in sitting and lying before the operation to find her able to rest in the recumbent position. She gradually sank, and died eight days after the operation.

In connection with this case I would say that when it becomes necessary to evacuate fluids from the peritoneal cavity, I can see no reason why an exploratory incision made with proper antiseptic precautions should not supersede the blind introduction of a trocar and canula, which reveals nothing in doubtful cases and never acts curatively.

Twelve
Months of Surgery.

Ending Oct. 1, 1892.

With a Few of the Interesting Cases of the Last Series
One Hundred, of

THREE HUNDRED LAPAROTOMIES.

H. F. BIGGAR.

Twelve
Months of Surgery.

Ending Oct. 1, 1892.

Six Hundred and Eighty-nine Cases with a Short Synopsis of Treatment of some of the Most Important, to which is added a Few of the Interesting Cases of the Last Series (100 *each*) *of*

THREE HUNDRED LAPAROTOMIES.

For valuable assistance, I am greatly indebted to Profs J. Kent Sanders and H. D. Bishop,

C. H. Cushing, 1st Clinical Assistant,
C. W. Ginn, 2d Clinical Assistant,
Cliffe Updegraff Johnson, 3d Clinical Assistant,
C. Albert Marquart, 4th Clinical Assistant,

And the Nurses of the Training School of the Huron Street Hospital.

H. F. BIGGAR.

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Ready for a Laparotomy.

TABULATED LIST OF SURGICAL CASES.

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TRACHELORRAPHY.

The operation for the repair of lacerated cervix was performed thirty-eight times. The indications for the operation are very clear and simple. Whenever there is a tear of the uterine fibers from whatever cause, which is followed by scar tissue with more or less of an inflammatory deposit trachelorraphy is necessary and should never be overlooked. It is our experience that there is no more prolific cause of cancer of the womb, and the *reflex* symptoms resulting from this condition affect the most remote organs. Previous to the operation some local and constitutional treatment is almost always necessary. Locally the womb is treated daily with pledgets saturated with glycerine and iodine. The technique of the operation is very simple. The patient is placed in Sims' position and a Hunter's speculum used. The cervix is firmly held in its *natural* position with a heavy hook, and a long silk thread is passed through both lips. It is grasped between the lips with a blunt hook and pulled out. The ends are tied and there is thus formed a guy for each lip, which does away with the use of tenacula. Taking the lower side first, a V-shaped incision is made including *all* the scar tissue, even if it extends up to and includes the internal os, which is then trimmed out with curved scissors. The upper side is treated in the same way. Catgut or silk-worm gut sutures are used. In sewing up, it is best to begin on the upper side, and thus cut off all troublesome hemorrhage which would interfere with the lower side. In ordinary cases this operation can be completed in five minutes. The after treatment consists in giving a carbolated douche *after* the operation and a calendula douche every twenty-four hours till parts are healed.

PERINEORRAPHY.

The repair of the ruptured perineum when clearly indicated is followed by as satisfactory results as regards the comfort and cure of a patient as any operation in gynæcological surgery.

The incisions are made with scissors, one on either side of the vagina and up on the labia as high as desired. Two other incisions are carried downwards and outwards to either side of anus. The four cuts thus represent the letter X; the lower legs of the letter are shorter than the upper. Three or more silk-worm gut sutures are used with a Crofford or Papin's needle and the operation is quickly over. The worse the rupture the better the results. No tissue is lost, and the operation can be completed in from five to seven minutes. There are cases which present all symptoms of ruptured perineum, but the mucous surface is intact, and the perineum seems to be perfect. In such cases there is found a *rupture* of the *sphincter vaginæ muscle* to the perineal body. This is repaired by sutures similar to the operation of perineorraphy, and is followed by results equally as good as in the latter operation.

PERINEORRAPHY FOR RELIEF OF PROCIDENTIA.

The treatment of procidentia by either Alexander's operation, hysterorraphy or kolporraphy, is so often unsatisfactory, that every new departure which gives any relief to the condition is of special interest. In this series five cases of procidentia have been relieved, and the patients made comparatively free from any discomfort, by performing perineorraphy. The success of the operation depends entirely upon carrying the incision high up on either side of the vagina, and splitting the posterior vaginal wall so as to form an *extra firm* perineal body.

THE TECHNIQUE OF LAPAROTOMY AND AFTER TREATMENT.

Laparotomy, for whatever cause, appears simple in its details, and yet there are many little points in the operation itself and especially in the after treatment, that have been learned by experience and which contribute to its success. The most perfect cleanliness of patient, nurses and assistants is insisted upon in every operation. The operator before going into the operating room makes a complete change of clothing, even to stockings.

Those present are invited by card as follows:

Dear Dr.:

I will be pleased to have you present at an abdominal section, on......................................
at......................................

Yours very respectfully,

H. F. BIGGAR.

On the opposite side of the card are printed the following rules:

Kindly respect the following rules governing assistants, nurses and visitors attending abdominal section:

Prompt at appointed time. Perfect order and quiet during operation.

Do not handle any instrument, sponge or dressing used in operation.

Let your dress be scrupulously clean.

Do not come if in contact with infectious disease within 48 *hours previous to the operation.*

The patient's condition should be carefully looked to several days previous to the operation. If there is any tendency to constipation, the bowels are flushed every night. A bichloride of mercury vaginal douche is given morning and night. The night previous to the operation the patient receives a soap bath, and has her hair washed and nails cleaned. On the morning of the operation she receives a light breakfast. A sponge bath of bichloride of mercury 1:2000 is given and is followed by a thorough scrubbing and shaving of the abdomen, which is then washed with ether and covered with a compress saturated with bichloride of mercury 1-2000. One half hour before the operation the bladder is emptied and a bichloride vaginal douche is given. During the operation the body of the patient is protected by long woolen leggings and over these a blanket, which has an oblong piece cut out over the field of operation. No spray is used during the operation. The instruments are not kept in an antiseptic solution, but previous to the operation are thoroughly washed in a carbolic acid solution and then sterilized.

The abdominal incision should be made in the median line and pass through the skin, subcutaneous fatty layers, linea alba, layers of transversalis fascia subperitoneal fat and peritoneum.

During the ligation of the pedicle and care of the stump a square piece of bichloride gauze is passed over the center of the incision, thus completely protecting the intestines from injury. Sterilized cotton is used for sponges,* and previous to closing the abdomen the cavity is thoroughly sponged. The washing of the cavity with hot water is not permitted.

---

*The use of sponges is not permitted in any part of our surgical work.

In sewing up the abdomen Papin's needles are used, threaded with silk-worm gut for the deep sutures, and Ashton's with hair for superficial sutures. A drainage tube is seldom used, save in cases in which fluid has been left in the cavity. Whenever used the wound is filled with a strand of moist gauze which acts as a wick in removing fluids from the cavity. It should be removed as soon as the cessation of hemorrhage or irritating discharges is determined. More often a strand of gauze wicking *alone* is preferable to the drainage tube.

For twenty-four hours following the operation nothing is taken into the stomach. Thirst is controlled by enemata and by rinsing the mouth with water. Should there be no tendency to vomit, sips of hot water may be taken to quench the thirst. The sucking of chips of ice is not to be encouraged. It is one of the most provocative causes of vomiting. Eight hours after the operation rectal alimentation is begun and is kept up until the patient is able to take sufficient nourishment by the stomach. The bowels should be moved on the third or fourth day, either by glycerine enema, or if indicated, by the internal administration of mercury, followed by a saline cathartic or elaterium in doses of 1-6 to 1-10 gr. Peritonitis and tympanitis are treated in the usual manner. In peritonitis hot applications of hops and whiskey have been found most effective and soothing. The extreme pain in peritonitis can often be very much relieved by strapping the abdomen with broad strips of adhesive plaster. These are also of great comfort to the patient when there is vomiting as an accompanying symptom.

NEPHRORRAPHY.

An incision three and one-half inches long was made, commencing about one inch below the twelfth rib and extending toward the crest of the ilium, cutting through the skin, fascia, latissimus dorsi, obliquus external and internal, and transversalis, care being taken to avoid the erector spinæ and quadratus lumborum.

The kidney was found as diagnosed, floating kidney, and three stitches were then taken through the capsule with catgut suture and the organ brought into place and stitched to the abdominal wall. Drainage was inserted and the wound supported by silver wire suture, after which antiseptic dressing was applied.

A floating kidney may be mistaken for an ovarian tumor, a movable kidney, cyst from the liver, pancreas, or for accumulation of fecal matter in the bowel.

Differential diagnosis:—The floating kidney is very movable, develops suddenly, has sharp, shooting pains, changes its position every time patient changes her posture, and slips away from the fingers.

Ovarian tumor, slightly movable, has a very distinct outline, develops slowly, almost painless, and only a slight change in position when patient changes her posture.

A floating kidney disappears when patient is in recumbent position, and an ovarian tumor does not.

Floating kidney moves very freely in the cavity of the peritoneum; while a movable kidney has a restricted movement only, in its capsule and fat, or in a sac between the peritoneum and abdominal wall.

It can be differentiated from a cyst of the liver or pancreas, or a loaded bowel, by its great freedom of movement, while the movement of the cysts and bowel is very limited.

Movable kidney is entirely subperitoneal.

Floating kidney is intra-abdominal.

Movable kidney may be caused from pyelitis.

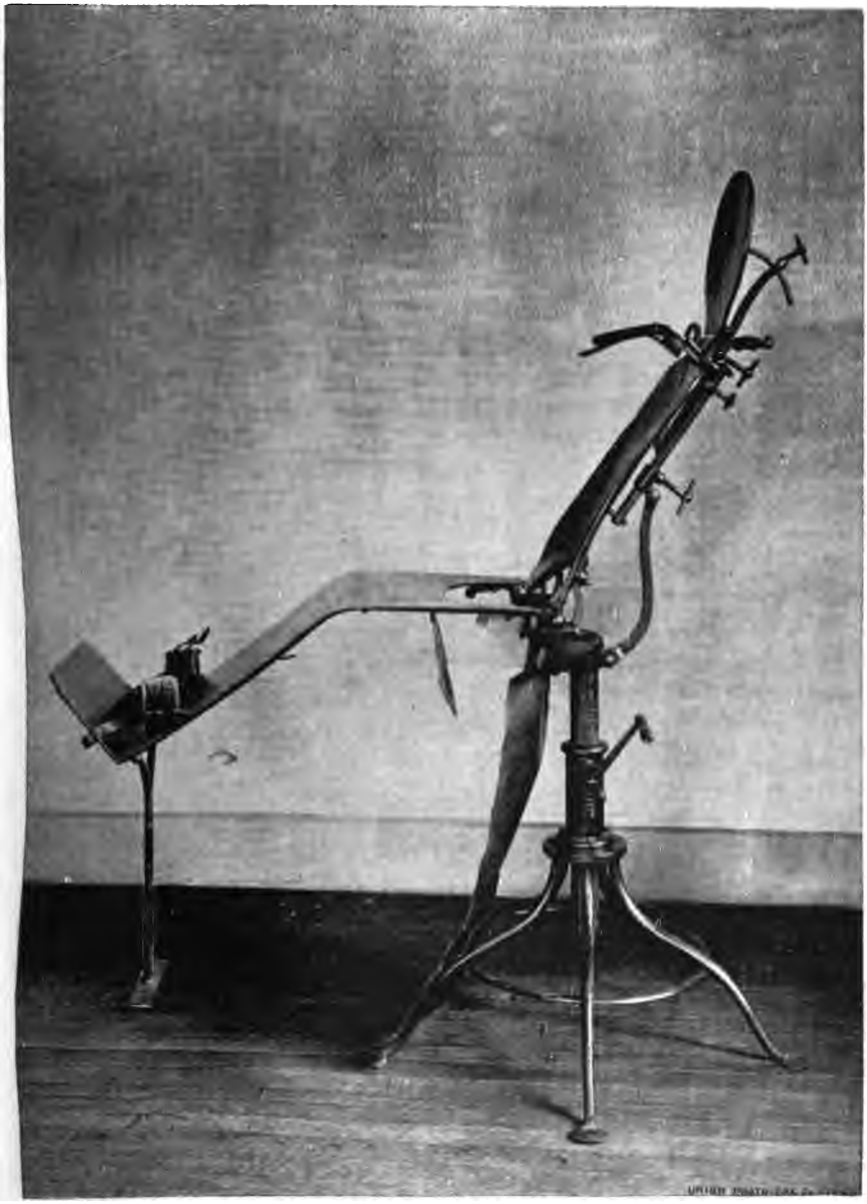
Floating kidney has a mesentery (meso-nephor).

Symptoms of movable or floating kidney may range from discomfort to intense agony, dull aching, dragging pain in groin, nephritic colic, frequent micturition, tenesmus, œdema of leg, jaundice from pressure.

VAGINAL CYSTOTOMY.

During this series this operation has been resorted to seven times to relieve bladder troubles. The relief afforded by it is remarkable and the results highly satisfactory. In severe cases of cystitis and ureteritis the operation should always be thought of. It is, however, contra-indicated in cases resulting from tubercular growths. One case of cystitis and ureteritis was in a condition of uræmic coma at the time of the operation. All these symptoms were relieved at once, and the patient made an uninterrupted recovery. The operation is as follows:

The patient is placed in the forced lithotomy position. A steel sound is passed within the bladder and an incision three-fourths of an inch long is made upon it, midway between the cervix and urethra, taking care to avoid the openings of the ureters. In the opening thus made, a glass eyelet is placed, and the bladder is thoroughly washed out with a one per cent. solution of carbolic acid. The hemorrhage from the walls of the bladder is sometimes troublesome, but can be stopped by packing the vagina with tampons saturated with a solution of tannin and hamamelis. The after treatment consists in washing out the bladder daily with one per cent. solution of carbolic acid, followed with a weak solution of permanganate of potash. Under



Trendelenburg's Chair, the table of which can be so changed that the patient may be placed at any angle for an operation, even to Trendelenburg's position for Laparotomy.

this treatment the mucous membrane of the bladder soon presents a healthy appearance. The success of this operation is pronounced in cases of cystitis where there is a constant decomposition of the urine. The urine dribbles through the opening and cannot collect in the bladder and decompose. As soon as the mucous membrane becomes healthy, the edges of the fistula are freshened and the opening sewed up as in vesico-vaginal fistula. A great deal of comfort is afforded the patient by the wearing of a Bozeman's utero-vesical drainage support. It acts as a support to the part and is a convenient receptacle for the urine as it dribbles away.

THE REMOVAL OF THE COCCYX.

One of the patients had a history of a fall on the ice, striking upon the buttocks. Since that time she has been unable to either sit upright or lie upon the back. The pain is dull and aching and is almost unendurable during passage of fæces. The examination showed that there had been a rupture of the ligaments with a displacement of the coccyx. The displaced bone formed almost a right angle with the sacrum.

The operation for removal consisted simply in cutting down upon the coccyx, disjointing and carefully dissecting it off. The recovery of the patient with none of the previous symptoms was the result of this simple operation.

TALIPES.

The most successful treatment of talipes has been in the use of fixed plaster dressing after tenotomy. Two cases were cured without resorting to tenotomy by the successive application of plaster paris splints. If tenotomy is necessary try the *open* method of cutting the tendons.

DYSMENORRHOEA.

A very large number of cases of dysmenorrhœa which come under the gynæcologist's care are due to some obstruction, either in the form of a displacement with inflammatory adhesions, or an inflammatory deposit serving as an impediment to the flow.

The proper treatment of these cases is of the utmost importance, for, unless properly treated, the condition persists and adjacent organs become seriously involved. The treatment most frequently resorted to is as follows: The cervical canal is forcibly dilated and made straight. A stem pessary, (of which none is better than Chambers',) is inserted and the patient put to bed. After twenty-four hours the pessary is removed and hot carbolated douches are given every twelve hours. Should there be any tendency to pelvic cellulitis, hop bags saturated with hot whiskey, applied to the abdomen, are of service. The canal is gently dilated once a week for several months, in order to insure a free opening. Internal medication is beneficial. If constipation exists, which is generally the case, some preparation of mercury is most frequently indicated. The local application of hydrastis or calendula is often beneficial.

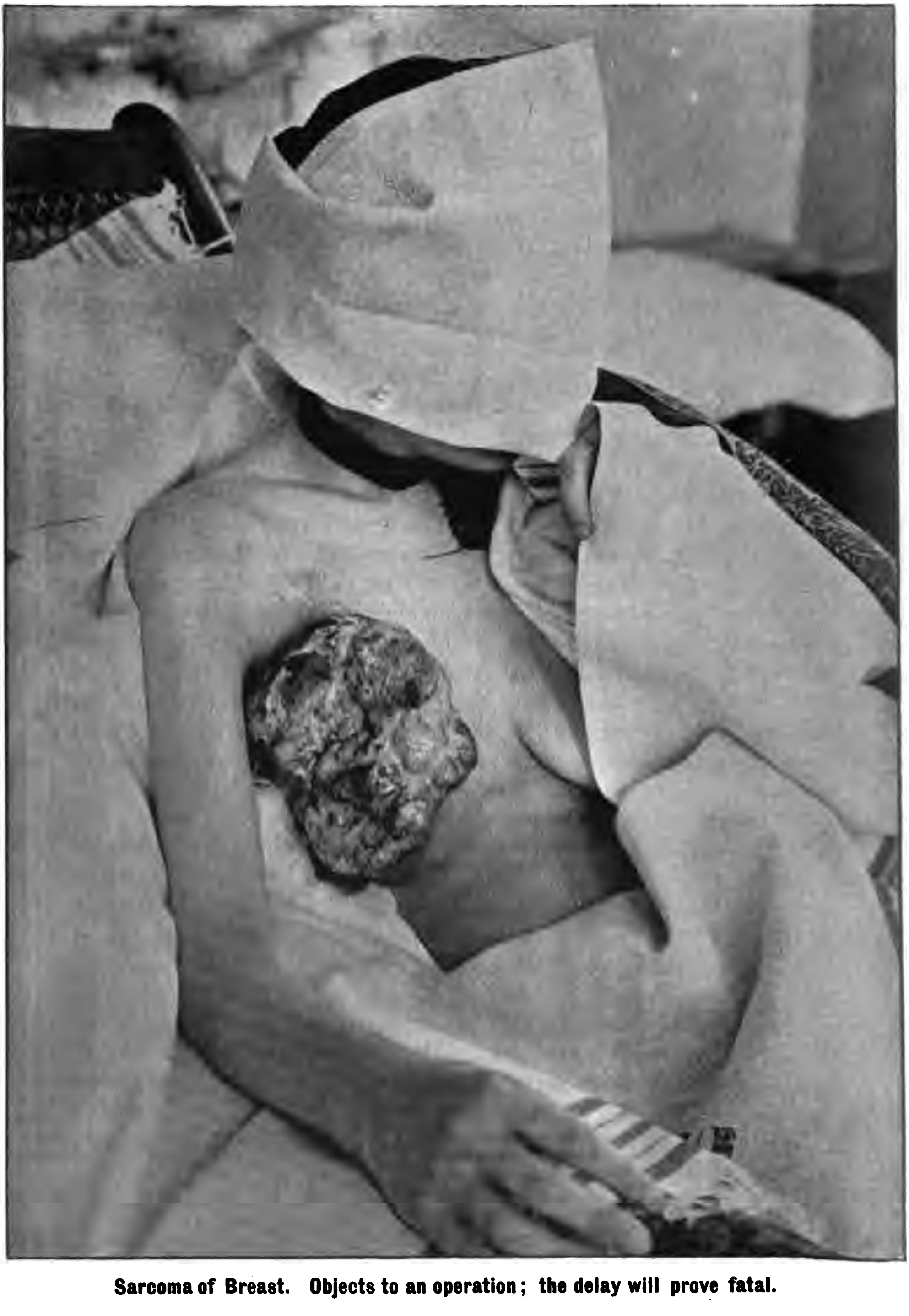
SKIN GRAFTING.

"We have two leading authorities upon skin grafting, Thiersch and Wywodzoff. Both have achieved brilliant results. Prepare the surface first by washing thoroughly with salt water, one teaspoonful and a half of salt to one quart of soft sterilized water. Then take a very sharp knife and scrape the ulcer. The bandage of Esmarch having been applied, is permitted to remain for an hour or more after the completion of the operation. It is necessary to have a raw bleeding surface, but there must not be too much blood. After scarifying wash again with the salt water. Shave the skin upon the left thigh and slice a strip one inch wide and six inches long. The point is to shave it off so thin as to avoid all adipose. If possible slide the graft from the razor to the denuded surface without touching it with the hands.

"Let the salt water drip over the skin as you split it. Now place the grafts side by side on the raw surface and cover them with strips of Lister rubber one inch wide. Let the rubber overlap like shingles on a roof. Cover this with many folds of sterilized gauze soaked in the salt water. The object in arranging the rubber in overlapping layers is that salt water may ooze through and keep the skin soft and moist. Moisture is essential. You can tell whether the graft is taking by its appearance. If it has a pinkish hue all is well. If it is a pearly gray color it is necrosed. The dressing consists in replacing the folds of gauze with freshly soaked pieces and this should be done only once in forty-eight hours. Close the wounds upon the left thigh, one with a loosely drawn continuous suture and the other and outer one by the sliding method."

TUMORS OF THE BREAST.

"Innocent growths are liable, when the patient shall have arrived at the age of 35 or 40, to take on cell growth," and become cancerous or



Sarcoma of Breast. Objects to an operation; the delay will prove fatal.

malignant. Thorough and complete extirpation of breasts with axilliary glands is the only safety. Hundreds of women can testify to the efficacy of the knife by restored and prolonged health.

PAGET'S DISEASE OF THE BREAST.

" Before the Northumberland and Durham Medical Society, at the meeting of October 9th, Dr. Hume exhibited a series of sections illustrating the pathology of Paget's disease of the breast, an account of which appears in the *British Medical Journal.* The clinical history of the case from which the sections were taken was peculiar from the fact that the enlargement of the axillary glands and the nodule in the breast had developed at the same time. From microscopical study of the sections Dr. Hume was of the opinion that the affection of the nipple was closely allied to, if not identical with, epithelioma; that the milk-ducts were dilated and disclosed an overgrowth of their epithelium, which took the form of tufts or villi; that the nodule in the breast showed an inflammatory small-celled exudation, and also groups of ducts and acini in which the epithelium was proliferating; and that the enlarged glands showed small-celled infiltration and cancerous structure. He concluded that the growth at the nipple had from the beginning been cancerous, and that it had spread downward into the ducts; that subsequently it had burst through the ducts into the stroma and become an ordinary cancerous nodule. He therefore recommended that in all cases of obstinate eczema of the mamma the breast should be amputated at once and the axillary glands enucleated."

STITES'S TEST FOR CARCINOMA.

" 1. Excise the mamma.

" 2. Wash thoroughly in water to remove blood.

" 3. Place in a 5 per cent. solution of nitric acid (B. P.) for ten minutes.

" 4. Wash in cold water for five minutes.

" By the time these procedures are executed the axilla is cleaned out and the vessels tied. The mamma is now examined; the carcinomatous structure appears a dull white, like the eye of a boiled fish, the healthy tissue translucent. When any such reaction is seen additional tissue should be removed at the corresponding point.

"In removing the carcinomatous breast, Professor Chiene directs that its relations to the circumferential tissues should be marked by the knife, so that after the test has been applied to the mass excised the situation of any outlying, unremoved diseased areas can be fixed.

"In the case operated upon the foregoing directions were carefully followed by Dr. Coplin, who demonstrated to the class that the infected tissue became of the characteristic 'dull white,' resembling egg-albumen, while the uninfected tissue appeared translucent and gelatinoid, affording a striking contrast to the carcinomatous structures. The reaction in the axillary glands seemed even more marked than that in the breast; it therefore would, perhaps, be well always to retain one gland for comparison with those treated with the acid.

"The test described by the distinguished Scottish surgeon as devised by his assistant, Mr. Stites, appears to be a most perfect one. It is to be hoped that future trial will show that it can be depended upon, and that it can really be accepted as a gauge of the thoroughness and sufficiency of removal of carcinomata, not only of the mamma, but also of other parts."

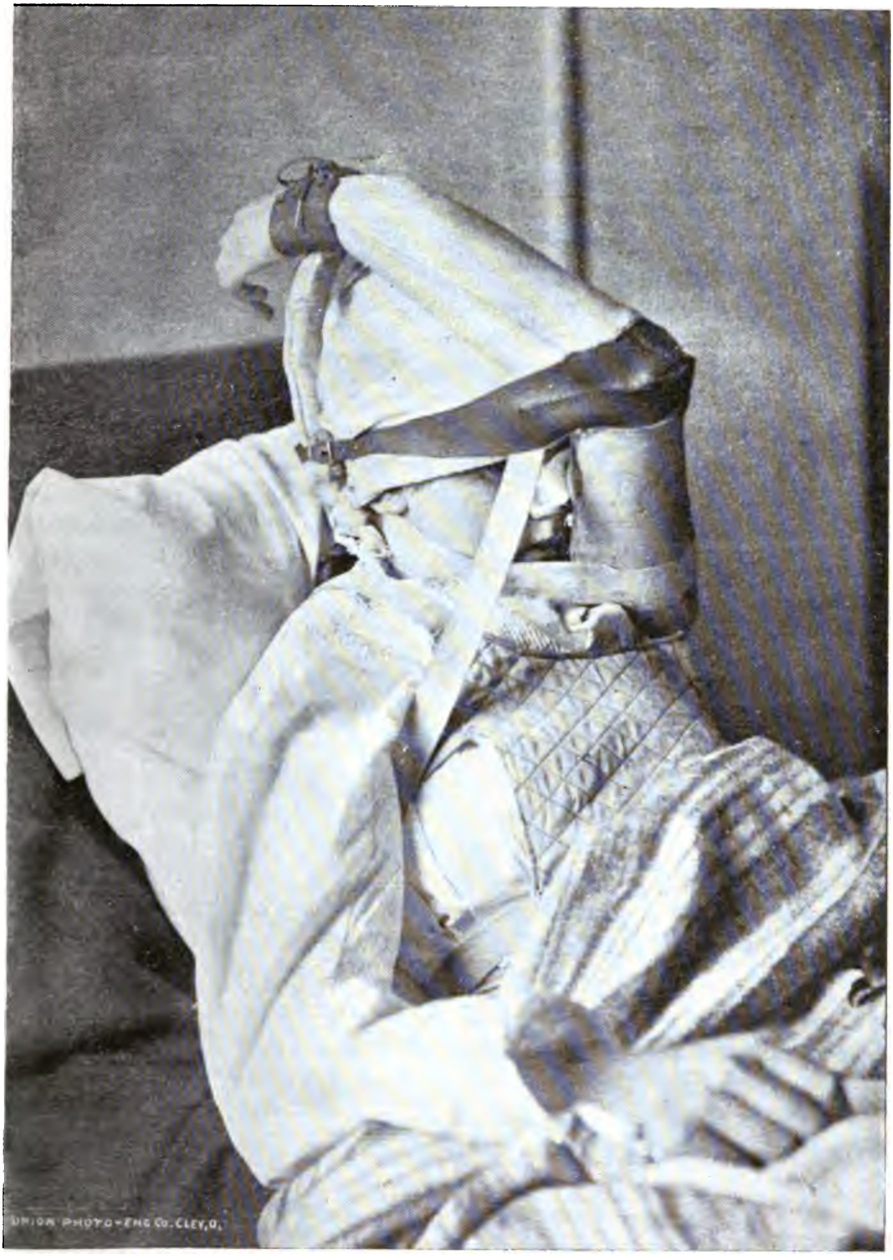
THE PREMONITORY SYMPTOMS OF CANCER.

"The accumulated evidence from clinical experience goes to show that carcinoma of the cervix uteri is capable of being permanently cured by an operation, hence the importance of an early diagnosis cannot be overestimated. To obtain this diagnosis early enough to admit of the benefit gained by an operation, Dr. C. H. Stratz gives us as the most important signs of carcinoma: (1) The diseased place is sharply limited by sound tissue, and never goes over into it by degrees. (2) A difference in the level of the whole diseased portion can always be made out. (3) Carcinomatous portions have always a light yellow color. (4) The malignant deposit is usually shown as finely granular, whitish-yellow, glistening elevations, at least in individual places."

"It is stated by Dr. Laroyenne of Lyons, that whenever, in a suspected surface of the cervix or of the uterus, the finger nail can be sunk into the tissue and some debris removed, we are authorized to affirm that the disease is of an epitheliomatous nature."

I am always suspicious of large, full Nabothian glands, for the cause is due to stricture of the ducts, and is followed by degeneration.

"I may say that cancer is a common cause of metorrhagia in women over thirty-five years of age, and I regret to acknowledge that there are still men high in the respect of their colleagues who regard menorrhagia at the time of menopause as evidence of its normal approach. To my mind there is no more iniquitous teaching, or one fraught with more disaster to our reputation with the public. In my experience, I have never failed to find either malignant disease or



Cut showing the splint necessary for plastic operation upon the nose when graft is taken from the arm.

fungous degeneration of the endometrium, and who can say but that the menorrhagia was, in fact, a warning to remove the benign embryo that the destroying parent might not get vigorous life? Clinical examples have occurred to most of us wherein the microscope could not discover evidence of malignancy, and yet these patients died of undoubted cancer. All physicians should therefore insist upon examination of their patient under such circumstances and advise them accordingly."

MOLLITIES OSSIUM.

Miss N.—— aet. 37, from a child was afflicted with scrofula, ulcers appearing in different parts of the extremities and body. The shoulder and hip joints were deformed in contour and mobility from the extent of the disease. She had been under the care of many physicians. Three years ago her toes were amputated. The legs became virtually rotten and amputation of the lower third of thighs was made last March. Plate No. 7 shows the condition of legs and the stubs of feet before the amputation. She recovered from the operation. The removal of the loathsome legs improved her general condition for only a few months. Seven months after the operation she died from extension of this incurable disease.

DIVULSION OF THE RECTUM AND COLLUM UTERI WITH CIRCUMCISION, FOR NEURASTHENIA.

Miss H., aet. 21. A great sufferer from the following symptoms: Spinal congestion, constipation, dysmenorrhoea, nausea, dysuria and other erratic troubles. Stretching the sphincter, dilating the cervical canal, and relieving a hooded clitoris, restored.

ELECTROLYSIS IN UTERINE FIBROMA.

Mrs. ———, aet. 36, no children. Abdomen as large as full period of gestation. In three years the growth disappeared and health was restored by electrolysis, medication and diet.

Miss M., aet. 26. Dysmenorrhoea, fibroma as large as at six months of gestation. Other surgeons advised an operation. In one year it entirely disappeared and health was restored.

ABSCESS OF THE ANTRUM OF HIGHMORE.

Perhaps the best diagnostic sign of abscess of the antrum of Highmore is that introduced by Dr. T. Heryng, of Warsaw, at the Congress of Otology and Laryngology, held at Paris in September, 1889. "A small electric lamp is placed on the tongue, lighting up the

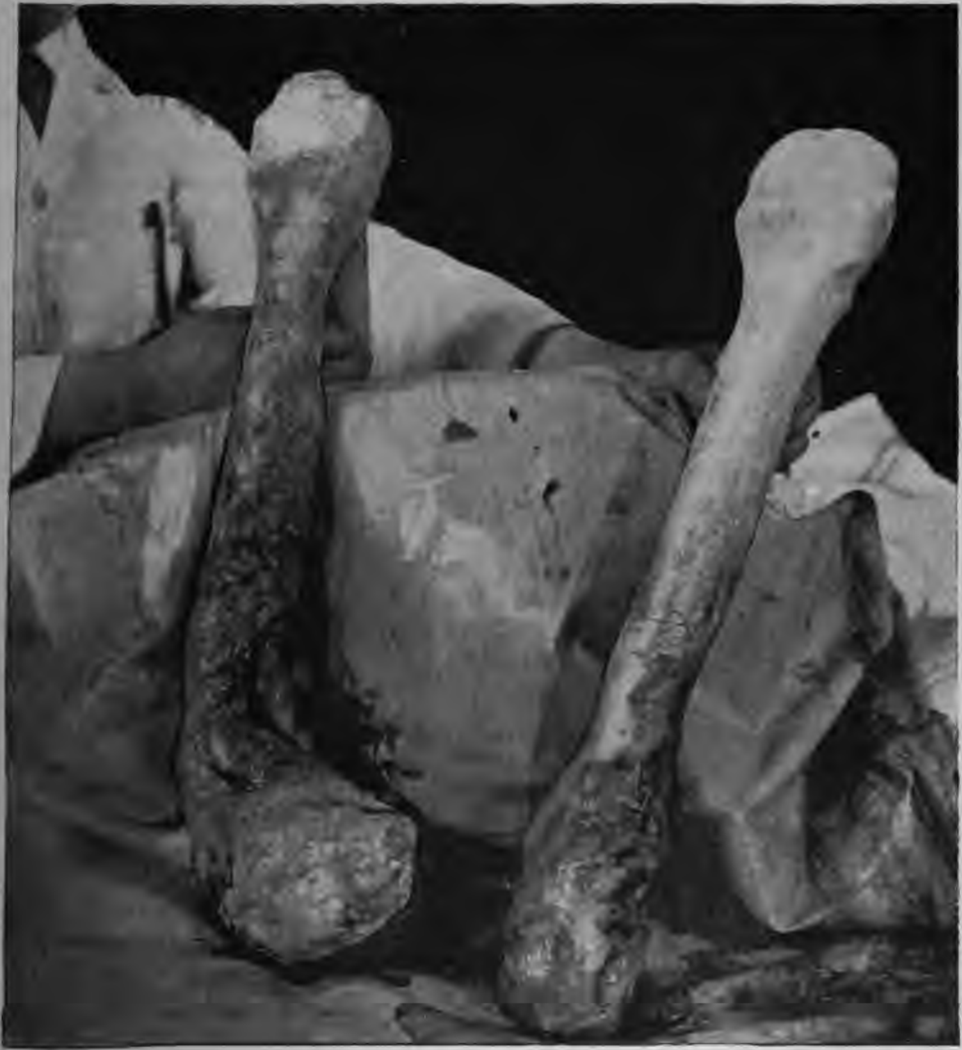


Plate No. 7. Mollities Ossium. Amputation of thighs with recovery.

mouth cavity. If the room is well darkened, two bright red spots appear below the lower eyelids. In case there is pus or a tumor in the cavities of the antrum, the red spots cannot be seen. Their presence is a positive sign that the antrum is free from obstruction, and *vice versa*."

RECTAL ALIMENTATION.

The early administration of predigested food by rectal enemata has often been of remarkable benefit in the after treatment of laparotomy. Patients when fed in this way are not so liable to excessive vomiting, and their stomachs can have perfect rest for twenty-four to forty-eight hours after the operation.

The proper preparation of the enema is a matter of some importance. At first thought one would think of pepsin as the best ferment to be used, but experience has shown that pancreatin, from the fact that it contains two classes of digestive ferments, is the most potent. The method of preparation is as follows:

Take the contents of one of Fairchild's peptonizing tubes and add to a pint of milk warmed to 100° F. Add two eggs and let the mixture stand until it becomes *bitter*, when it should be placed on ice and cooled.

Before injecting, the bowels should be thoroughly flushed and made clean. A rectal catheter is then passed into the bowel for a distance of 12 to 18 inches, and the enema slowly injected from a fountain or bulb syringe. Half a pint to a pint may be employed at each injection, which is repeated every six or eight hours. When stimulants are indicated, half an ounce or more of brandy may be added to the enema.

UTERINE FIBROIDS.

Eighteen cases of uterine fibroids have been under treatment, which consisted as follows: Electrolysis three times a week by means of the galvanic current, the positive pole applied to the cervix, and the negative pole over the tumor. Internally calcarea iodide is given, a twenty grain powder in one pint of water, of which one tablespoonful is taken after meals. Under this treatment there has been a gradual improvement, with cessation of pain and hemorrhage, and a lessening in size of the tumor fully one-third. The treatment of fibroid tumors by this method has been used in selected cases for a period extending over eighteen years with remarkable success. The technique of Apostoli's treatment is not strictly adhered to. Puncture of the tumor is seldom employed. The internal administration of calcarea iodide for the general condition, and secale, trillium or cinnamon for hemorrhage are valuable adjuncts in the treatment. The diet is also of importance. The patient should adhere to a diet in which starches and sugars are strictly avoided.

EPITHELIOMA OF THE MOUTH.

This fatal disease is benefited by ranunculus bulbosus; equal parts of the fluid extract and glycerine should be brushed over the ulcer daily. Phytolacca, galium aperinum, and chloride of chromium. I first learned the value of these remedies from that excellent work "Epithelioma of the Mouth," by H. L. Ostrom, M. D.

BANNING'S BRACE IN SPINAL CURVATURES.

"The reason for the constant and mortifying failures of mechano-therapeutists, can be found in the fact that they aim *only* at the correction of one specific defect; invariably failing to take into consideration the always present collateral conditions. For instance, take spinal distortions:—the appliances they construct are designed to lift, squeeze, hug-*anything*, to force the trunk into something like symmetry; regardless of the fact that the centripetality of the entire microcosm has been lost; and that head, limbs and trunk,—as well as the muscular, nervous and sanguineous systems are participants,—being in abnormal relation to each other, the spine and gravity. To quote the distinguished discoverer of mechanical pathology and therapeutics, (the elder Banning) " As with the watch, so with the human body; the smallest imperfection in the bearing of any one part to another, causes imperfect action, and that imperfection is carried throughout the body; all the systems taking part in the mechanical disturbance."

THREE HUNDRED LAPAROTOMIES,

(NOT SELECTED)

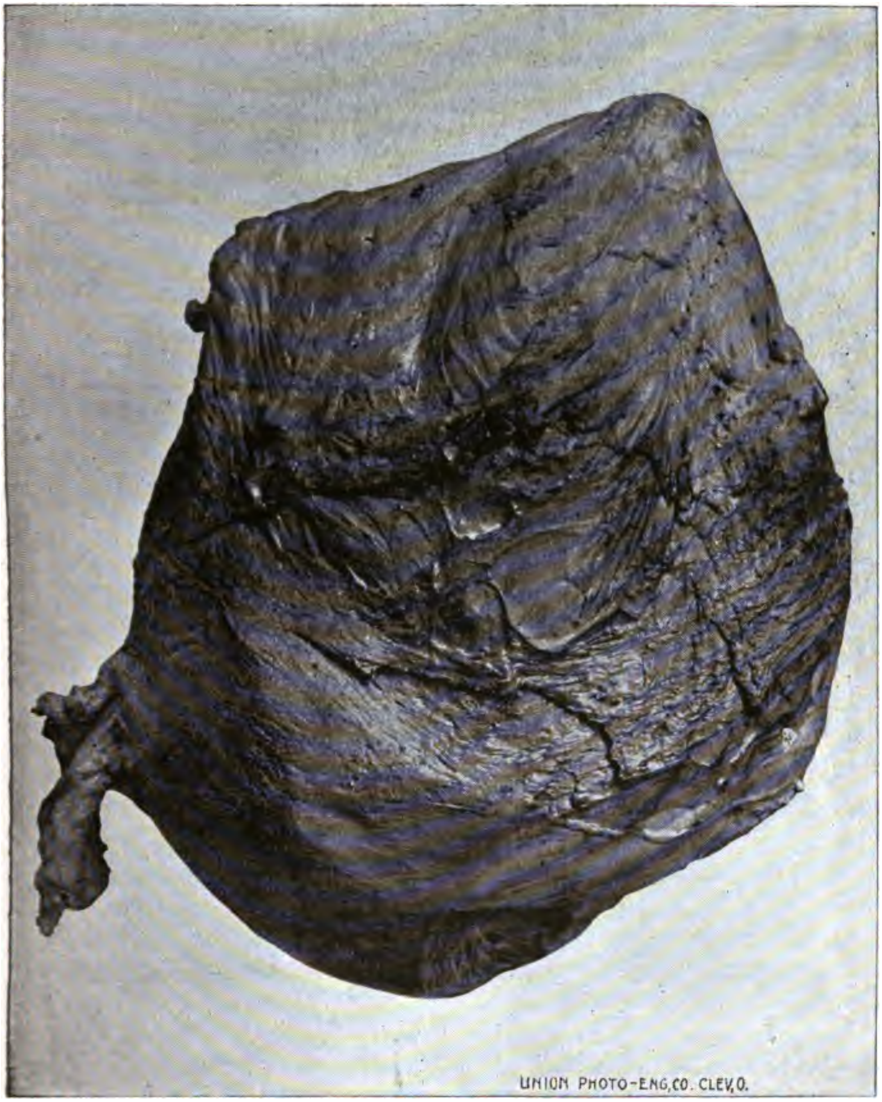
Reprint from "The Argus."

Of the three series of one hundred each, the following was the ratio of mortality: First series, fourteen; second series, sixteen, had a large number of very difficult cases; third series, eight. In the last 129 laparotomies, twenty were hysterectomies with two deaths and these from malignant complications, eleven successive successful hysterectomies in the series of twenty. In the third series were five dermoid cysts and two extra uterine impregnations, and twenty-seven successive successful laparotomies. The largest uterine fibroma weighed 11¾ pounds; the largest ovarian tumor (proliferous cysts), 61 pounds, both recovered. The greatest mortality was with the smaller growths.

In the last series found five Meckel's Diverticula. In the same series there were also two large suppurating cysts; ovariotomies, 44; hysterectomies, 18; salpyngotomies, 13; herniotomies, 6; explorations, 6; pelvic abscesses, 6; enterotomies, 4; ectopic gestation, 2; Cæsarean sections, 1. Cæsarian section repeated upon the same woman after a lapse of six years, mother and both children, boy and girl, saved.

SOME OF THE INTERESTING CASES OF THE LAST SERIES.

CASE 29—Ectopic gestation, Miss K——, aet. 26. Sixteen months previous to operation was injured in a railroad accident. In the right ovaric region a growth developed. She demanded damages from the railroad company for the injuries received which resulted in the *growth*. A settlement of a few hundred dollars was effected through arbitration. The growth continued to increase for eighteen months, when the patient submitted to an operation and a fifteen pound dead male fœtus was removed from the abdominal cavity. A case of tubal pregnancy, with extensive adhesions to the abdominal and pelvic viscera. The sac was opened and fœtus and placenta removed. The fœtus was evidently seventeen months old. The finger and toe nails were so long as to curve around the ends of the fingers and toes. Could not remove the cyst, the adhesions were so great; so stitched the walls of the cyst to the abdominal incision. Two drainage tubes



Uterine Fibroid. Weight, twelve pounds. Abdominal Hysterectomy; recovery.

were used, one within the sac, and the other above and outside the sac and within the abdomen proper. Slow recovery. Patient subsequently married the father of the child, and from the physician, Dr. I. J. Baughman, of Akron, I learn she has given birth to a living child, the gestation being natural.

CASE 211—Miss A., Wellington, O., aet. 41. For nine years has been suffering from uterine fibroma. When removed it weighed eleven and three-quarter pounds. Patient made a good recovery.

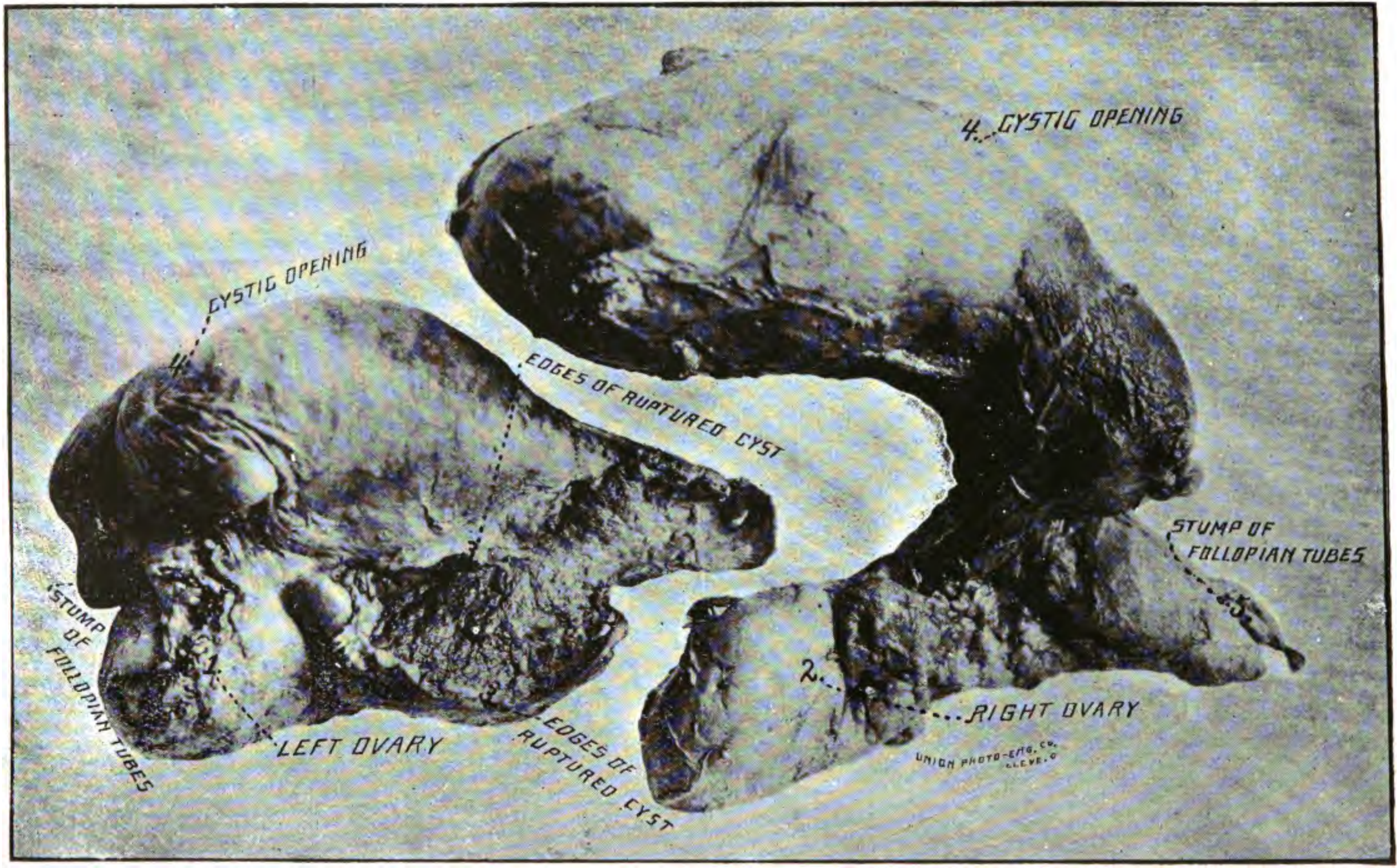
CASE 230—Miss F., from Poughkeepsie, N. Y., aet. 40. Consulted New York surgeons, who declined to operate, fearing a fatal result. Her health was beginning to break. She entered the Huron street hospital and a tumor weighing 11 pounds, and adnexa were removed, with recovery.

CASE 280—Cæsarean section successfully repeated to both mother and children. Mrs. S., aet. 34. Six years previous I performed Cæsarean section, Sanger's method, when mother and daughter were saved. The first time the patient entered the hospital ten days before birth. The second time membranes ruptured and escape of fluid occurred at her home eighty miles from Cleveland. Her husband brought her to the city in a common day car. Labor pains were continuous and severe during the journey. Operation Sanger's method twenty-six hours after the escape of the waters. It was in February and she suffered for several days after the operation from bronchitis, resulting from exposure during her journey here. Before recovery she had an attack of erysipelas. She is now blessed with two living children.

CASE 295—Proliferous cysts, weight sixty-one pounds.—Mrs. T., Salineville, O., aet. 29, mother of one child four years old. Recovery very slow, owing to extensive adhesions and the vitiated condition of the blood previous and subsequent to the operation. Ten days after the operation, when death seemed inevitable, gave inhalations of Maxwell's Compound Oxygen. Two hours after commencing with the oxygen improvement began. Phosphate of Iron 3x, suggested by Prof. E. R. Eggleston in consultation, was of great benefit. Three weeks after the operation, with no apparent reason, within twelve hours the temperature fell from 105 to 98.2, a difference of 6.8, and the pulse from 134 to 98, a difference of 36 beats.

CASE 300—Complication of tumors—with a romance.—Miss L—, aet. 22, Nevada. Since a child of five years, her mother noticed unnatural symptoms and developments of the internal organs. At nineteen she kept company with a young man and became engaged. At

The Caesarian Family. First operation, girl; second operation, boy.



Double Pyo-salpinx; recovery.

this time the abdomen became suspiciously enlarged and the attentions of the young man ceased. Shortly after they separated and removed to different States of the Union. Not knowing the whereabouts of each other, both within a week's time entered the Huron St. Hospital for surgical operations, and were under my care. They were in the hospital several days before it was known that the other was also an inmate.

Six months before entering the hospital, the young woman was under the care of a distinguished allopathic surgeon of this city. His diagnosis was uterine fibroma and the treatment electrolysis after Apostoli's method. Not improving, she entered the hospital with a well developed case of septicemia. After battling with this formidable malady for three weeks, convalescence followed, thanks to good nursing and lachesis, when her health was sufficiently established to permit operation for the removal of the growth. Before operation I supposed the growth a dermoid cyst.

I also erred, for there were a monocyst of the right ovary, proliferous cysts of the left ovary, and the union of these so completely adherent that the uterus became a solid part of the anterior cyst wall. With the removal of the cysts, was compelled to remove the uterus, and the stump of the uterus was treated as in abdominal hysterectomy.

The entire anterior cyst walls were densely adherent to peritoneum, caused no doubt by the electrolysis.

HYSTERECTOMY FOR PAIN.

CASE 231—Vaginal Hysterectomy for Carcinoma with rapid recovery. Mrs. S——, aet. 37. Two children. The most hopeless case before operation and the most rapid of convalescing cases,——the patient walking seven days after the operation and continuing in perfect health.

CASE 236—Miss C., aet. 31. Two years previous to entering Huron street hospital had her ovaries removed for dysmenorrhoea by a very able allopathic gynaecologist. The suffering after the first operation was severe and wore the patient out. The scar after the removal of the left ovary impinged upon a nerve. The uterus was drawn to the left side, aggravating the pain. After repeated efforts medically and otherwise, we were unable to give relief. Resorted to hysterectomy with a cure.

CASE 298—Uterine Stone weighing 7120 grains. Mrs. B., Virginia, aet. 49, no children. Nine years ago came under my care for uterine fibroma, as large as six months' gestation. At intervals came to the hospital for galvanism. Her diet was restricted and medication of Iodide of Lime 3x given. Tumor diminished, leaving a hard, solid mass as large as a very large orange. By laparotomy removed the calcareous deposit, which was encysted and attached to the anterior surface of the uterus. The previous treatment and operation were highly satisfactory.

CASE 299—Vaginal Hysterectomy for Cancer. Mrs. T——, aet. 49. The malignant growth involved the cervix and body of the uterus, with inflammatory deposits within the broad ligaments and posterior walls of the vagina. Several physicians pronounced the case incurable, either by the knife or with medication. Vaginal hysterectomy was performed with complete relief.

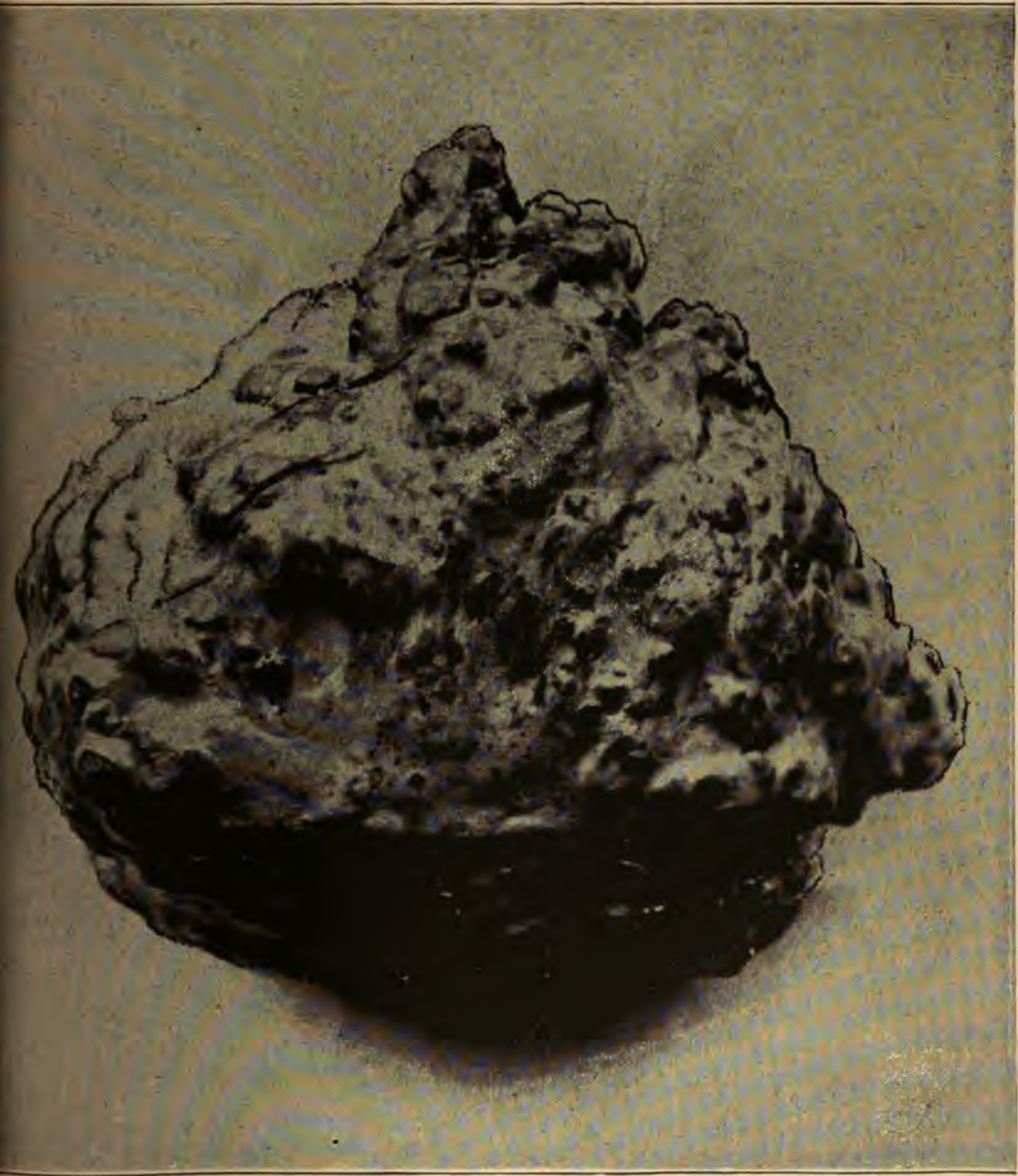
COMPLICATED TUMORS.

CASE 213—Malignant mass of right ovaric region not removed. Recovery from exploration. Mrs. B., aet. 40. Exploratory incision was made and found a malignant mass involving right ovary, fallopian tube, and broad ligament of right side. It was thought impossible to remove. The abdomen was closed; the mass gradually disappeared and health was completely restored. One of the few instances where an operation *per se* is beneficial.

CASE 234—Salpingotomy with a history. Miss F., aet. 26, invalid for ten years. At twenty she became engaged to a young man. Invalidism increased and weighed so heavily that she desired the transfer of her lover's affections to her younger sister, a healthy, robust girl. The lover complied with her request. After their marriage she gradually grew worse. She eagerly desired the operation but lived only eight days. Before death she made her nurse her confidant and said that her heart was broken.

CASE 243—Mrs. S., aet. 31, two children. Laparotomy and enucleation of two cysts, one a dermoid of the right ovary, and the other an intra-ligamentous cyst of the left broad ligament. Good recovery.

CASE 271.—A suppurating cyst, containing five gallons of pus.—Mrs. B——., aet. 46. When first seen was exhausted from the large cyst. So large was the abdomen that the patient could not turn over in bed. Blood poisoning was well established. Her physicians had given up all hope. In four days, tapping each day, removed five gallons of pus. Her weak condition would not permit of the cyst being emptied at one aspiration. After the operation the patient slowly recovered, thanks to arsenicum 3x.



Uterine Stone—7120 Grains.

ABSCESS OF LUNG.

Leah S., age 10. Four years before, injured left chest wall by running against a door knob, which was followed by pleuro-pneumonia. During these years her condition became alarming. The contour of chest was abnormally changed; the left half was four inches less in circumference than the right, and the lateral curvature of spine very pronounced. Resected portions of the 7th and 8th ribs of the left side; opened into the lung, or the remains of it, and liberated a large quantity of pus. Thoroughly washed out the cavity and established free drainage. By inserting the hand within the lung cavity you could surround the apex of the heart. Good recovery.

PLEURITIC EFFUSION.

Miss T. Removed 42 ounces of purulent pleuritic fluid by aspiration. Subsequently resected the 7th rib and established thorough drainage. Cure was complete.

NON-UNITED FRACTURES.

Three cases presented and two restored by *suturing* the bones. In the third perhaps the cast was removed too soon; another suturing may be successful.

NUGGETS.

A woman has more organs than those of generation.

Laparotomies will be fewer in the future, ditto rectal amputations.

Before removing ovaries and tubes endeavor to drain the tubes by catheterization through the cornua.

Pay every attention to the minute details; success will follow.

A diagnosis of diseased pelvic organs cannot be complete without an examination of the rectum.

I have yet to find a better antiphlogistic than Veratrum Viride. (Norwood.)

Inhalation of compound oxygen enriches anæmic blood.

A differential diagnostic symptom between uterine fibroma and pregnancy is, in fibroma the cervix is hard like the end of the nose; in pregnancy, soft like the lips.

Blood or serum may remain within the abdominal cavity after a laparotomy and no unpleasant results follow.

Remove an ovarian tumor as early as possible; but for a fibroma, wait until the health begins to be impaired.

A fine darning needle to puncture the kidney for a suspected renal calculus.

Thuja for uterine cancer.

Cundurango is valuable for cancer if a proper decoction is used.

Calendula decoction, weak, as vaginal douche, daily after vaginal or cervical operations, is most healing.

Catgut sutures for trachelorraphy give good results.

Silk-worm gut sutures for perineorraphy.

The scissors for perineorraphy.

The best needle for sewing up deep sutures of abdominal walls is Crofford's or Papin's, and for the superficial sutures, Ashton's.

Avoid ice to abdomen in peritonitis—hot bags of hops and the best whisky are infinitely better.

Keep malignant growths dry.

Remove adnexa in vaginal hysterectomy.

Parotitis from pyemia is not a fatal symptom as is taught by the learned surgeons of the allopaths.

"The faults of women are the work of men."

Marriage after the menopause is a prolific source of ovarian tumors—the Graafian vesicle develops into a tumor.

Kidney disturbances are sometimes due to dragging on the ureters by a tumor, or by a deviated uterus, or by the extension of an inflammation of the cervix to the ureters.

"Landau refers to two pathognomonic symptoms of value in the diagnosis of tubal cysts. In hydro-salpinx, the sac—being not alone elastic, but the muscular wall remaining intact to touch—resembles an air cushion, and it may be possible to express this fluid into the uterus and collect it. In purulent tubal cysts, the above mentioned sign is generally lacking, because the muscular wall has its contractility impaired by meso-salpingitis."

Lycopodium 30th very valuable in *gaseous distension after laparotomies.*

Neglected cervical lacerations the chief cause *of cancer of the womb.*

Every mother after thirty-five should consult a skillful specialist for uterine examination every *six months.* Many valuable lives would be saved.

Every man after thirty-five should have the urine examined every *six months.*

In hip disease have found Thomas's splint very good. It is difficult to construct properly, but when properly fitted it holds the joint firm and allows the patient to walk with ease.

Avoid the Staffordshire knot.

A *laparotomy* for so-called pelvic abscess.

Sepia for chronic pelvic congestions.

Secale for acute pelvic congestions.

Buttonholing the urethra is not beneficial for cystitis.

In uterine fibroma electrolysis is useful in hard symmetrical tumors and injurious to a soft tumor.

Extra-peritoneal treatment of pedicle is the safer way.

The stitching of peritoneum to stump is not so essential but be sure and have peritoneum *below* the elastic cord. If possible have stump long—traction causes pain.

Wilcox's needles are essential.

Hystero-epilepsy is not always cured by the removal of ovaries.

After twenty-five years' experience have arrived at the following conclusions:

A hard uterine tumor, whether small or large, at any age, demands attention. Seventy per centum are *relieved* and thirty per centum are *cured* by medication, diet and electrolysis. If one exists and does not inconvenience, either by pain or hemorrhage, do not trust to the menopause for relief. If your efforts are not successful, and you can safely carry the patient beyond the menopause, then interfere surgically.

For a soft uterine fibroma, do not use electrolysis, but medicate and restrict the diet. You may accomplish much by draining the tumor through the cavum uteri.

The following rare and curious cases were under observation and treatment at the same time:

A case of supernumerary mammary glands located in the axilla of each side.

A case with three complete mammæ and three nipples, the left being double.

A case with two vaginæ and two uteri.

A case with spurious hermaphroditism.

A case of Cæsarean section.

A case of tubal conception with natural delivery at full time with healthy babe.

If patients are addicted to morphine, cure them of the habit before the operation, which can be done by nitrate of strychnia, or capsicum.

Beware of *urea* in *urine* if less than normal.

The continued use of opium may cause serious disease of the kidneys.

Scrupulous cleanliness of patient before, during and after operation.

Thorough cleanliness of room, tables, surgical dressings, linen, assistants and self.

A solution of sal soda is the best for cleaning hands and nails.

Sterilization of instruments in 2 per cent. of carbonate of soda. The soda prevents untempering of instruments.

The abdomen, after operation, is opened most readily by raising up the abdominal walls as a tent with four sharp tenacula.

Sponges of sterilized borated cotton.

No flushings of the abdomen; clean with sponges and if adhesions are extensive, pour pure olive oil within the abdominal cavity, which completes the toilet of the abdominal cavity.

Use drainage tubes after my own pattern, which are short, large lumen and broad flange. These prevent pressure on the intestines and no danger of ulceration and emptying of contents within the abdomen.

In ligating ovarian pedicles use three or more ligatures; if three, let the first ligature be doubled and passed through the pedicle, halving it, tie each one as if one ligature; no interlacing; below these two the third.

In abdominal hysterectomy the rubber cord and Wilcox's needles are used.

In sewing abdominal walls use Papin's needle for deep sutures with silk-worm gut; it prevents stitch abscess; for superficial sutures use Ashton's needle with carbolated horsehair.

Chloroform or ether as demanded.

Large tumors are less dangerous than small growths.

If glass drainage tubes are used, pack with sterilized gauze. In number 295, the sixty-one pound tumor, where the adhesions were so extensive, hemorrhages lasted four days, and two hundred and seven bleeding packings were removed, saving life beyond a doubt.

For twenty-four or thirty-six hours, give nothing per the mouth but hot water or crust coffee, or Seltzer water, which is very grateful and frequently stops vomiting. Thanks to Dr. G. B. Haggart, house surgeon, for the last suggestion. If necessary to keep up the strength, rectal enema.

Electrolysis suitable only for hard fibroma.

Avoid opiates; pain is sometimes a necessary factor. Immediately after the operation give hypericum 2x; if there is shock, aconite 1x.

Encourage passing urine naturally. Encourage passing flatus and induce good movements of the bowels at early stage. Mercurius sol. 1x, grains 5, every four or six hours, or when persistently constipated give elaterium, grains one-sixth. Movements of bowels prevent adhesions.

Trendelenburg's posture is most suitable and Trendelenburg's chair for laparotomies and head operations is very desirable.

In cases of doubt as to phantom or other tumors, anesthetize the patient; the diagnosis can be made more accurate.

I am greatly indebted to the nurses of the Huron street hospital for the good care of the patients.

Lint saturated with carbolic acid 1 part, pure glycerine 9 parts, the only external abdominal dressing.

Use woolen abdominal bandages for months after operation, it prevents hernia. I have heard of only two cases during the three series.

Do the work thoroughly and quickly. After it is well done *don't fuss* with the patient. TRUST, TRUST.

Pean's mass tissue forceps are the best for vaginal hysterectomies.

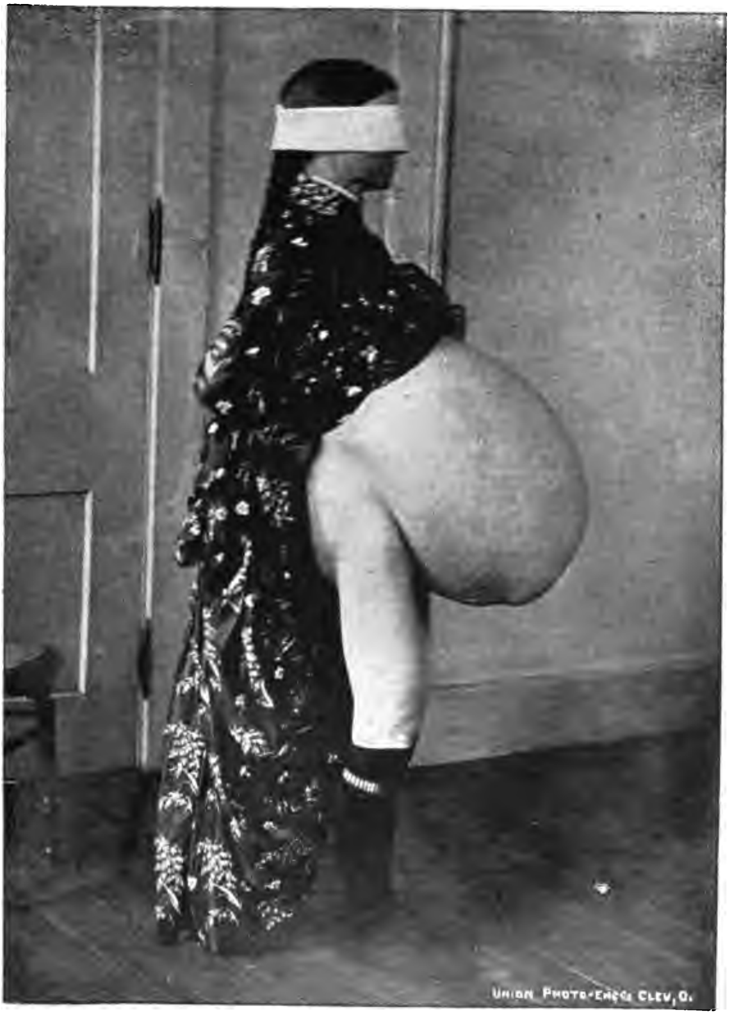
Let the abdominal opening be a clean cut wound; use worm gut sutures, not too tight in the stitching, thus preventing mural abscess.

When drainage tube is used, after insertion of 18 hours, gradually draw it outward for fear of pressure on the intestines and perforation.

Holbrook's curette is of value.

Key's operation for varicocele is simple and effective.

A urethral caruncle may cause insanity.



Enormous Proliferous Cyst. For the present objects to an operation. Constitutional treatment is calcaria flouride 6x, with improvement in her general condition, and diminution in the size of the abdomen.

A carbuncle should be freely incised and well cauterized with pure carbolic acid.

Circumcision of girls restores health.

For lithotomy the supra-pubic is the best for large stones.

Try Bozeman's pessary for vesico-vaginal fistula.

Kelley's catheter for exploring the ureters.

For lupus, apply potassa fusa and rose water, equal parts.

Every wound heals more safely with drainage, whether of hair, wire, rubber, gauze or otherwise.

Reprinted from the Journal of Orificial Surgery, February, 1893

ORIFICIAL SURGERY.*

E. A. DE CAILHOL, M.D.,
LOS ANGELES.

Orificial surgery, unknown six years ago, is to-day attracting the serious attention of thinking practitioners. Orificial surgery means surgical interference upon the orifices of the human body when any of them are in an abnormal condition, so that re-establishing them normally, it cures diseases arising from sympathetic nervous disorders.

However, at the present, orificial surgery is believed by numerous members of the medical fraternity to be only a new fad that will soon be doomed, being, indeed, a shorter and easier method of investigating.

Orificial surgery is now solidly established. It is a specialty. It is to Dr. E. H. Pratt, member of the staff of the Homeopathic Medical College of Chicago, that belongs the honor of being the inventor, the teacher and propagator of this valuable process to cure a great many chronic diseases formerly supposed to be incurable.

During the five years that Dr. Pratt has introduced the system of orificial surgery, he has made with it wonderful, as well as unexpected cures. Through it, also, his followers daily accomplish no less brilliant successes. Whoever walks in Lincoln Park, of Chicago, and casts a glance at Dr. Pratt's splendid sanitarium, with its one hundred richly furnished rooms, always full of patients, will immediately realize the magnitude of that establishment and the benefits that poor suffering humanity receives from the application of orificial surgery.

Orificial surgery is not only a great help in the cure of chronic diseases, but looked upon from a physiological point of view, it is daily demonstrating to those who practice it, the great importance of the physician not mistaking the reflexes for the real disease. Dr. Pratt must have been struck by that great truth, and undoubtedly it is upon it that he has built his system of surgery.

Nearly half a century ago, studying the sympathetic nature of diseases, I deeply meditated upon those of the rectum, bladder and uterus, and I soon realized that these three organs have a great power to simulate maladies in some other parts of the human body. Let us see how correct is this theory: Every physician knows that the sacrum, upon which rests the spinal column, is the central bone of the three that form the pelvis. It is in that bony chamber that are located the prostate gland, the seminal vesicles, the bladder and the rectum in men; the latter two organs with the addition of the uterus and the ovaries in women. The sacrum is the keystone of the arch that supports our intellectual, respiratory and digestive apparatuses, with the bony structures that contain and protect them, and the powerful muscles that move the body on its three pivots, the sacrum and the two thigh bones. The nerves that give the sensitiveness and power to the procreative organs and the two closing muscles of the bladder and rectum, and send to the brain a knowledge of the wants and conditions of these two great waste gates, that may be called the janitors of the body, pass through holes in this bone to reach the organs they govern. The reproductive and pelvic organs indicate so absolutely our power in carrying out all the great moral and physical objects of our existence, that their healthful or diseased condition may be said emphatically to measure our powers as men and women. So absolutely do they control the expression of the face and the action of the body, that the acute practical surgeon can generally judge the degree of their diseased condition as the unknown victim passes him on the street. This should excite no surprise. If the Creator in His great plan chose to make these organs the agents by which redundant life was to be evolved, to give almost that attribute in which we come nearest Him—creative power—surely the face and action of its possessor should indicate the Godlike boon. Our vicious system of society, with the total destitution of physiological knowledge, has so fostered the premature exercise of the sexual functions that the attendant diseases have seriously impaired the physique and gait of great numbers of our people. One has only to compare the bright and speculative mirthful eye, the upraised head, the backward curve of the spinal column, and the firm yet quick, elastic step of a man or woman in whom the pelvic organs are in health, with the victim of personal abuse, hæmorrhoids or piles, prolapsus of the womb or rectum, rupture or varicocele, to see at a glance the difference. To this the surgeon adds a practical observation of the facial muscles, indicative of irritation and pain in some one of the pelvic viscera, and the peculiarity of step from the irritable spinal nerves which supply motor messengers to the muscles moving the lower limbs, and he can form very generally a correct idea of the nature of the affection; we cannot take a single step without bringing the pressure of every muscle that steadies the body directly upon the contents of the pelvis; the brain takes cognizance of the attendant pain and weariness and the body expresses it in its every action.

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* Read before the Homeopathic State Medical Society of Southern California.

The extensive prevalence of these diseases was very little understood before the system of orificial surgery was placed before the profession; now, for the investigating physician, it is a solid fact that four-fifths of all chronic affections originate from the exhaustion produced by some diseased condition of the pelvic organs.

No department of surgery more completely illustrates the folly of our people in their insane devotion to business and sensuous indulgence than that of the pelvic viscera. It is by infinite odds the most responsible and important branch of the science. The rectum, the uterus, the bladder and its appendages, the urethra and ovarium, not only allow the widest field for observation of the diseases of artificial life, but their re-action on the mind affords the most comprehensive insight into a series of nervous affections in other parts of the body, utterly unintelligible without a knowledge of the diseases of these organs. None indeed but a very ignorant person, simply a pill-giver, will attempt to deny the importance of this department of our profession. But there is a great evil in the popular belief that it constitutes a distinct branch and can be pursued with no regard to other parts of the body. When an educated man has had the opportunity of observing these diseases for many years in every variety that vice, folly and hereditary misfortune produces, he almost unavoidably falls into the habit of classifying his patients the moment he first beholds them. He has gained a degree of quickness in the expression of the face, and the general action of the body, as indicative of the existing disease, that makes him dogmatic in his mode of questioning his patients. This is unfortunate, both for the patient and the surgeon. The former, knowing nothing of the structure and wonderful sympathies of the diseased parts with some other portion of his body, cannot see the connection between the organ from which he supposes his troubles proceed and some local pelvic disorder in which the surgeon knows the disease to originate. The patient may have nervous or partial headache, be partially deaf, experience loss of memory, have sudden fits of partial blindness, palpitation of the heart, weariness in the loins, pain in the thigh, or instep, etc. When the surgeon, after a few questions, insists on examining the rectum, urethra, or uterus, the patient objects and is dissatisfied; he does not believe in any disease there; he cannot comprehend the meaning of a sympathetic affection directly consequent of an unsuspected disease in a distant organ; he will often insist upon a full detail of all his symptoms and feelings, with the domestic or other patented medicines he has perhaps swallowed for years. If it be a man who seeks advice, he has either been isolated from the wholesome mental stimulus of society and study in some obscure village or farm house, or he has been subjected to such a severe and health-crucifying pressure of business in some small town or village, that he has neither mind nor time to understand or listen to the warnings of nature, far less to those of a skillful and conscientious surgeon; he will either smile incredulously at the most serious and earnest representations, and clamor for pills or other nostrums, or he will exhaust the patience of the surgeon by foolish and irrelevant questions. Tell him, when he insists on relating the numerous affections in every part of his body, that every vital organ is actually associated by myriads of nerves that excite sympathetic action with the part first diseased, and he will smile at you for your pedantry. He has come to you to buy a cure for his disease, as he would buy a coat or a horse; he is going to cross-examine you as he would a suspected person, or what is equally painful and dispiriting to an earnest man, he will blindly swallow every word you say to him, and submit to all you require, and demand a cure in a fixed time, paying no regard whatever to your exaction of obedience to the organic law of his existence. He expects to recover and to eat, drink, smoke, wear thin shoes and light clothes, and also commit every vice to which he has been addicted, and to rely upon his physician for a cure, in spite of all his folly.

Dr. Pratt has been probably inspired by all the above, or perhaps, like me, he has read the remarkable book of Dr. Ashton, of London, on diseases of the pelvic organs, in which he wrote forty or fifty years ago: "It unfortunately happens that patients, too often from a mistaken delicacy, fail to ask advice, *till the constitution has become seriously deranged*, or the local affection no longer endurable; or it may be that under preconceived and erroneous notions as to the nature of the affection, or from the prominence and severity of some one of *the sympathetic effects*, the sufferers are induced to adopt a variety of empirical remedies, which fail to afford the desired relief and restoration to health, and which are often productive of the most pernicious results."

"Few classes of diseases exemplify the necessity of a wide and mature consideration more than those implicating the rectum; the same symptoms will often be found existing under the opposite condition of cause and effect. Thus, in the female many instances have occurred of stricture of the rectum being supposed to exist, and a long and useless treatment had recourse to, when ultimately all the patient's sufferings were found to depend on a displaced uterus or some morbid enlargement or growth of that organ. On the other hand many females have been treated for leucorrhœa or other uterine trouble, whilst the real source of the symptoms has been in some affection of the rectum."

"In the male, also, will be observed stricture of the urethra, diseases of the prostate gland and bladder simulating those of the rectum; and diseases of the alimentary canal, producing irritability and disturbance of the genito-urinary organs; it is necessary, therefore, to bear in mind the remote sympathies induced in the cephalic, thoracic and abdominal viscera, as evinced by headache, impaired vision, palpitation of the heart, pain and distress and sickness in the stomach, and deranged secretion from kidneys, as exhibited by the various urinary deposits."

If I were not afraid to exhaust the patience of the members of this assembly, I would detail a vast number of cases illustrating all these contiguous and remote sympathies, for they have been under my daily notice for over forty years. The most frequent is the impaired hearing of most of these sufferers; that function is often impaired in a marked degree in rectal affections, especially when hæmorrhoids or piles exist. Not only does the discharge exhaust the body of blood, but the prolapsus of the bowel and stretching of its ligaments exhaust the nerve-power, by dragging on the nerves as they pass from the rectum; and as our hearing, of all our senses, depends upon the most delicate organization of the nerves, so it will very often be found seriously impaired in persons who have diseases of the pelvic viscera; it is very often found in our own population, where tobacco and other vices have perhaps long been preparing the way for it by depressing the power of the entire nervous system.

All diseases that drain the system of blood, matter, serum, or nerve power, must in time affect both sight and hearing; also memory; and I have often been surprised to find intelligent people completely unsuspicious of this great physiological truth. They seem to isolate each part, and they forget that the human body is only in health when all its parts act harmoniously. We cannot be continually reminded of the existence of any part unless something is going wrong in that part.

When we see in health the body acting in such perfect harmony in all its parts, we cannot realize that it is made up of various organs.

To illustrate before this assembly the importance of knowing the extent of local or near sympathy, I will quote the opinion of the celebrated Dr. Guthrie, that acute observer and prominent surgeon of London. He says in his work on the anatomy and diseases of the sexual organs:

"The urethra is often sympathetically affected by diseases of the rectum, of so obscure a nature that the patient is scarcely conscious of any such complaint. The sympathy which exists with hæmorrhoids is generally sufficiently marked and whenever symptoms in the urethra cannot be accounted for after an examination of that part, the condition of the rectum should be carefully investigated."

I have seen, since I investigated the benefits of orificial surgery, cases of disease attributed to the urethra, resulting from a small fissure in the folds of the mucous membrane of the intestine, or from a papilla or pocket which had remained for a long time unrelieved by all the means adopted for its cure, and by its friction creating a constant irritation, exasperating the nervous system, until at last either of these disorders were discovered and completely cured by the process of orificial surgery.

In diseases of the neck of the uterus, the sympathy of the bowels is marked; I scarcely ever find such a case without some morbid condition of the rectum, either constipation, cold feet or hands, or both, piles or fissure, to which women are particularly subject. The bladder, also, scarcely ever escapes in a chronic case of piles, and I never think any more of treating their diseased conditions separately. The surgeon who well understands these sympathies, will never be influenced by his patient's wishes to ignore one or the other.

But in order to understand the system of orificial surgery, and also in order that the practitioner may derive benefit from its application, I will repeat, it is indispensable to well understand also the diseases arising from sympathetic causes. For instance, take an affection of the rectum that in some degree will be an illustration of a continuous or near sympathy with a disease originating higher up the bowel than the symptoms for which the patient usually seeks advice, and which he invariably believes to be the original disease; it is irritation or itching of the integument immediately surrounding the anus. What causes it? I remember that many prominent English physicians, half a century ago, had written paper after paper upon this extremely annoying disease, and all of them trace it chiefly to the friction of the parts excited by walking, or, in most instances, to the continuous irritation of the mucous membrane lining the entire bowels, produced by irritating articles of diet. Rarely any of these authors speak of it as produced by an ulcer immediately above the anus. My own experience in examinations, with the help of Pratt's investigating speculum, has demonstrated to me that either internal piles, papillæ, pockets, or some ulceration of the delicate membrane that lines the bowels, is as a general rule the cause of this affection, for which years of misery are expended by the patient in exhausting the catalogue of all the popular ointments, nostrums, pills or pellets of all schools, without relief; whilst by resorting to orificial surgery, such a patient will be out of misery in an average of only ten days treatment necessary to effect a radical cure.

Every learned physician, or one who has had years of experience, knows that the lack of circulation of blood in the human body originnates most all diseases. Orificial surgery re-establishes it in its normal condition.

When the peristaltic actions of the body are enfeebled, orificial surgery can strengthen them. When functional activities are sluggish, orificial surgery can revive them. When the whole body, or any part, passes into a sleep so lethargic as to refuse to respond to ordinary measures, the .penetrating voice of orificial surgery can awaken it. The orificial philosophy has mild measures for mild cases, and extreme measures for extreme cases; but in all cases the tendency of orificial work is to re-establish a wholesome activity in the entire capillary circulation of the body, thus relieving all congestions and inaugurating nutritive changes.

In closing this, perhaps, too long article on orificial surgery, I will repeat Dr. Pratt's striking sentence on behalf of this system before the Chicago Homœopathic College: "Bring me an individual with clean lips and nostrils; a palate of proper length and unobtruding tonsils; a rectum that presents neither piles, prolapsus, fissure, fistula, ulcer, pockets or papillæ—an individual whose sexual orifices are smooth and free from all irritation; if it be a man, his foreskin shall be free, the fraenum of sufficient length, the urethral passage smooth and normal in size, especially in its prostatic portion; if a woman, her hymen must be pale and atrophied, her urethra devoid of caruncles and ulcerations, her internal and external os uteri reasonably patulous, and without undue sensitiveness; bring such an individual, and I will point to the same person and show you a human being whose digestion is good, whose sleep is sweet and restful, whose capillary circulation is superb, whose very existence is a constant source of uninterrupted delights. Such men and women maintain a steady poise of mind and body—they live to the fullness of time, and, unless removed by accident, their dissolution takes place on the principle of the 'one-hoss-shay'—they settle slowly and peacefully into their last sleep, just because their life's time-piece has run down. On the other hand, introduce to me a mortal, suffering with passive congestion in various parts, whose blood finds its lazy way back to the heart by slow stages because the peristaltic action of the arteries is tired out—a person whose vitality is low, and whose poor, enfeebled body begins to be the prey of inherited or acquired tendencies—consumption, scrofula, syphilis, organic derangements, of whatever form they may take—show me such an individual, and they are as numerous as withered leaves in autumn, and I will stake the reputation of this idea that I shall be able, without straining a point, to find legitimate fault with the condition of some one or more of the various orifices of the body."

Since I have commenced to study and practice orificial surgery, I am not afraid to affirm that all troubles arising from nervous disturbances are curable by it. The first thing a physician has to do, if he finds contraction in any of the orifices of his patients, is to thoroughly dilate it and examine for any pathological conditions.

DR. PRATT'S OPERATING PROCESS.

Dr. Pratt's process in operating upon patients is entirely different from what I have seen before and learned in my young days. The morning that a patient is to be operated upon, for obvious reasons, he does not eat anything, but thoroughly empties his bowels. As soon as he is under the influence of an anæsthetic, either straight chloroform or $\frac{1}{8}$ chloroform and $\frac{7}{8}$ ether, with the help of a peculiar and powerful speculum of his invention, he thoroughly dilates the rectum. Then with an assistant holding the speculum in situ with the bowel in full view, and a blunt or sharp hook in hand according to circumstances, he commences with curved scissors the pruning of all papillæ, pockets, caruncles or any roughness that may be present. If some polypus or pile tumor is to be removed, he clamps it and without ligating it cuts it clear off; no bleeding worth mentioning ever takes place. The large pile tumors alongside the margin of the anus, are dissected and cut in the same manner; then the parts denuded are re-covered with the internal mucous membrane, properly sewed with catgut ligatures. If some small arteries bleed in the course of the operation, the parts are irrigated with anti-septic hot water at a pretty high temperature, or torsion with artery forceps is made and the bleeding is checked. As soon as the interior of the rectum is perfectly smooth, a pledget of absorbent cotton soaked in pure spirits of turpentine is applied upon the raw surface and left there one minute or two—time enough to sufficiently cauterize the parts and stop all oozing. Finally the patient is carried to his bed and an application of a good-sized pledget of absorbent cotton saturated with Pond's extract of hamamelis is placed against the anus and replenished every hour until all pain subsides; all is secured by a T bandage, over it a hot water bag is placed and the patient is left to rally in charge of a nurse. In a few minutes he is all right, surprised to learn that he has been operated upon and that all is over.

The smarting of the parts operated upon is pretty severe. Having passed through the ordeal myself, I can speak of it with full knowledge. The pain lasts from half an hour to one or two hours, but with a hypodermic injection of morphia and atropia combined, the pain is immediately relieved.

A curious feature of this operation is that, as soon as all is over, the patient, who has had, sometimes for months, cold feet and hands, his face or other parts of his body congested and irregular pulse, is relieved of all his miseries. The circulation of blood being instantly re-established, causes the skin to become moist, and the pulse normal. Three days after, under a mild laxative—sometimes only a soothing enema—the patient easily empties his bowels, and a week after he attends to his business.

If the patient is a woman affected with a contracted os uteri, with or without a complication of leucorrhœa, the os must be forcibly dilated with the proper dilator, no matter whether she is a virgin or a married woman; and after all, in succession the uterine sounds have to be passed, commencing with the smallest, up to the largest. Another curious feature of this process is this: If the operator is timid and does not dare to pass the large sounds, believing them to be too large, he is sure to have to deal in the after-treatment, a few days later, with a metritis, or some other unpleasant affection, whilst if he boldly go through with all the series of sounds and afterward thoroughly irrigate the internal os and vagina with the antiseptic warm water, no trouble arises. Women having to undergo such an operation, as soon as they are carried to their beds, should have a large poultice of flaxseed sprinkled with pulverized lobelia seed and capsicum placed upon the pubic arch as a precaution or preventive against complications.

BENEFITS DERIVED FROM ORIFICIAL SURGERY.

I have here to publicly and sincerely thank my young friend and very able colleague operator, Dr. W. E. Pritchard, of this city, a pupil and former assistant of Professor Pratt, for his kindness not only in restoring my health but in teaching me the process of orificial surgery. He has, indeed, given me every opportunity during a period of over a year, either by assisting me or having me assist him in the operations which either of us had to perform. I have kept a record of all our cases in order to be able to accurately ascertain the benefits resulting from it, either for my satisfaction or the instruction of my professional brothers. On that subject I will say that out of one hundred operations seventy-eight were a complete success, sixteen have very much improved the patients, six were complete failures. It is a fact, however, that in the latter class, three who were very sanguine and anxious to be operated upon, were warned to entertain no hope of success, owing to the hopeless condition in which we found them.

Among the affections that may be cured by orificial surgery I have noticed the following: neuralgia, sick headache, constipation, chronic diarrhœa and dysenteria, functional diseases of the heart, neurasthenia, asthma, cramps, epilepsy, numbness, poor capillary circulation, dysmenorrhœa, amenorrhœa, palpitation, sleeplessness, defective hearing, weak sight, some lung troubles and recent paralysis.

Until I knew about orificial surgery, I was at a loss to explain certain cases of death that I had witnessed during my professional life. And furthermore, every time that I had to use chloroform, in spite of all my precautions, I was afraid to give that anæsthetic to my patients, and never gave it when any of them had heart or lung troubles. But I have learned since I have practiced Dr. Pratt's system, that all deaths happening during an anæsthesia, or during an operation, are nearly always due to a nervous spasm of the heart. Often during the course of an operation, after having clamped a pile tumor or a polypus, a spasm will take place and your patient ceases breathing. The only thing to be done is to loosen the clamp, or if you have made a ligature, let it loose, and do so as often as the spasm takes place. Very seldom will you have to do this more than twice. If, after this procedure, the patient does not breathe, introduce your index finger into the rectum and gently tickle the upper part of it; or what is better, insert the speculum and dilate. As soon as this is done the nervous system is aroused, your patient takes a long breath and all danger is over.

Such a simple process dispenses altogether with the use of the nitrite of amyl, electricity, artificial respiration, inversion, etc., and *is* reliable.

I sincerely wish, for the benefit of humanity, that this process be extensively spread all over the surgical world.

9

A TREATISE

ON SOME

Diseases of the Bones

AND

Ligaments of the Spine,

BY

Shadrach
S. M. CATE, M. D.

WASHINGTON, D. C.
JOHN F. SHEIRY, PRINTER,
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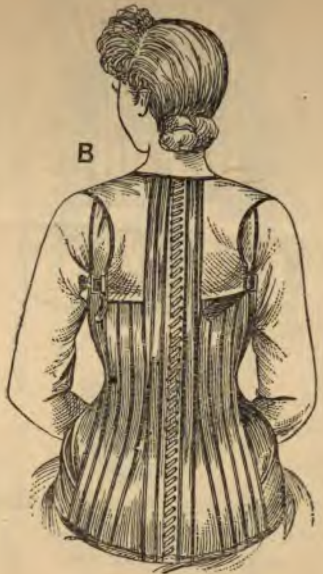
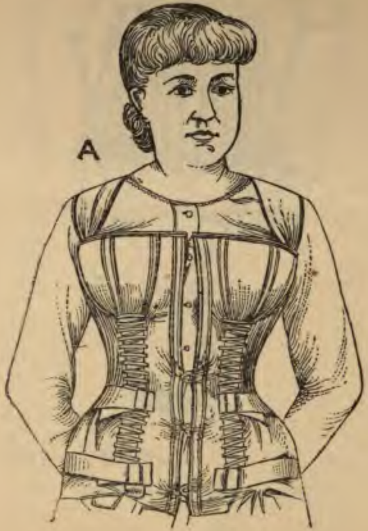
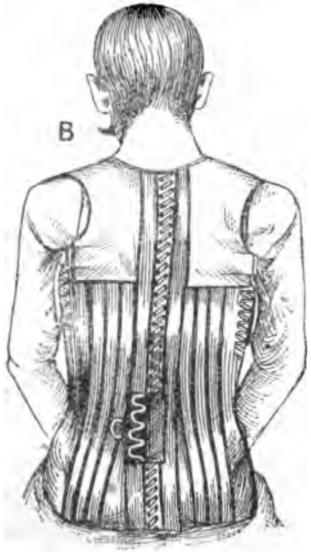
B. Back view of the same.



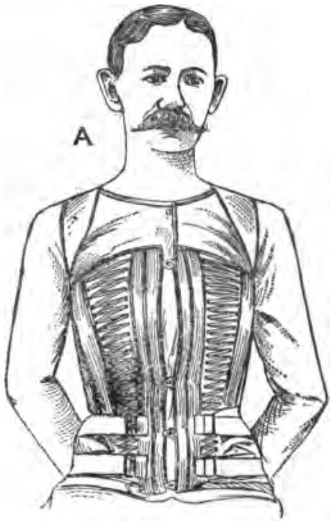
A. Front view of female with brace.



B. Back view of the same.
C. Showing a section of the Serpentine brass wire spring.



A. Showing front view of male with brace.



SOME
DISEASES OF THE BONES
AND
LIGAMENTS OF THE SPINE.

BY S. M. CATE, M. D.

The spinal column is made up of bones or vertebræ cartilages and ligaments, to which the skull is attached above and the sacrum below. The sacrum articulates with the ischium, forming the pelvic basin, to which the femur is attached, giving, with the bones of the legs, the frame work of the lower extremities.

The spinal cord runs from the head down through a foramen in the vertebræ, ending in the various branches distributed to the sacrum and lower extremities. Along the sides of the spinal column various branches of the spinal nerves pass to be distributed to the organs of the body and to anastomose with portions of the ganglionic or sympathetic nervous system.

The bones of the spinal vertebræ have a large measure of mobility aided by the cushions of cartilages distributed between each pair, and from the elastic nature of the ligaments, by the attachment of which each two are bound together. The muscles lie in pairs along the back, having attachments to different portions of the spine, the skull and the pelvic bones, which, together with the muscles of the chest and abdominal walls, are also distributed in pairs, thus forming a full and complete set of antagonizing forces, giving fixity and firmness, or mobility to the body, as the duty or pleasure of the person may require.

When all these muscles, bones, cartilages, ligaments and the spinal cord and nerves, with the accompanying blood vessels and connective tissue are in a healthy state, we have, in so far as these parts are concerned, a healthy body.

Paralysis of some of the muscles of the trunk may produce a curvature of the spine; the antagonizing muscles not being held in check by the paralyzed ones, draw the trunk to one side; and if the paralysis of the muscles continues, the curvature also becomes permanent.

Lateral curvature may also be produced by increased muscular action. Increased contractions of the muscles of one side of the spine may overbear the power of their antagonizing muscles and draw the trunk to one side, producing a curvature similar to that produced by paralysis.

The cure in such cases can be accomplished by curing the paralysis on the one hand or by removing the excessive muscular contractions on the other. Many methods of treatment have been devised to accomplish these ends, but, it must be acknowledged, with only partial success.

Tenotomy, or the subcutaneous division of the contracted muscles, sometimes succeeds in cases of increased muscular action, but to restore the paralyzed muscles is a more difficult problem to solve.

Spinal curvatures may be produced by faulty positions of the body. By sitting in a bad position at a desk for several hours daily, for a long time, curvatures of the spine may be acquired. By habitually sitting on the lower end of the back, instead of in the natural position, curvature of the spine may be produced. Faulty positions in bed, as lying with the head on very thick pillows may gradually deform the neck and back; but deformaties of the spine, which originate from faulty positions of the body, are generally acquired very slowly, and then the bones are gradually molded into bad angles without inflammation or other diseased action.

I would say a word about the treatment of this form of curvature before I come to the treatment of curvatures arising from inflammation. These curvatures are gradually acquired and can be gradually helped by the judicious application of extension and mechanical support. Hanging by the neck on Dr. Sayre's extension-apparatus for five or six minutes at a time, two or three times a day, together with a brace to hold that which is gained by the extension, will gradually mold the bones into more natural shape, to a degree that seems incredible to those not familiar with these processes.

Time will not permit me in this paper to go into a detailed consideration of the spinal diseases originating in muscular paralysis, or of that originating in excited muscular action; but I am the more content to omit it because such forms of spinal disease are rare compared to the long list originating from traumatic injuries of the bones of the spine.

Falls or other mechanical injuries are the most common cause of inflammation of the spinal bones. Blows may be received directly upon the back; falls of the body where the subject strikes upon the feet or lower end of the trunk, producing a concussion and inflammation of some of these tissues of varying degrees of intensity and importance.

Some persons are much more inclined to inflammation of the bones than others, and a fall which with one may produce inflammation of the bones and cartilages of considerable intensity and importance, with others will pass off without much result. In fact, this tendency is so marked with some as to be developed by acute and severe disease, as after violent fevers.

Keeping in mind that these diseases are not seldom met with, let us inquire as to their *manifestations, progress and development.*

Marked disease of the spinal bones, such as to cause considerable absorption of the body of some of them and thus produce an angular curvature, cannot be overlooked, provided the naked back of the patient be carefully examined. So too, when the inflammation of some part of the spinal bones is of so intense a character as to be attended with suppuration, the pus burrowing down under Poupart's ligament, or at some other point of the lower part of the body, forms an abcess and discharges its contents, the nature of the trouble will not easily be overlooked. The contrary is the fact in many cases in which the inflammation is of a lower grade and the deformity not easily detected by an unpracticed eye, and all treatment is useless until a correct diagnosis is made out.

Many physicians have met cases where the most careful selection of remedies has proved useless, in which some of the following symptoms were prominent: palpitation and various nervous disturbances of the heart; dyspepsia in its various forms; nausea and the most obstinate vomiting; pains of a more or less neuralgic nature in the chest, stomach and bowels; urinary tenesmus; incontinuance of urine; catarrhal symptoms of the bladder; pains in the back with spots of the spine tender to the touch; pains of the legs; nervous twitchings and jerking of the legs; contraction of the cords of the legs; weakness of the legs and many other symptoms of disturbance of the lower extremities. The uterine function is often involved, from which may come prolapsus uteri, anteflexion or retroflexion, anteversion or retroversion of the uterus; leucorrhœa and functional disturbance of the menstruation and many other uterine disturbances. Disturbance of the sexual functions, such as priapismus, or much more frequently seminal emissions, impotence or weakened and partially impaired sexual capacity, is often produced by diseases of the spinal bones.

A sudden loss of power of the limbs and especially of the legs, which nearly approaches paralysis, at once points to the nervous system as being at fault. In other words, if there is no evidence of lesion of the brain, the conclusion is almost sure to be correct that the spinal bones are diseased. Or the disease may be in the spinal cord as the beginning of spinal sclerosis or some other disease of the cord itself. There are many cases of paralysis of the legs in which the disease is in the bony structure, where the trouble of the cord is caused by mechanical pressure upon it, resulting from the deformity of the bones.

There are some sensorial disturbances which also come from disease of the bony structure of the spine, such as vertigoes, headaches and neuralgias. There are also cases of disturbance of the nervous system, such as hypochondria, nervous fears and tremblings, fears of dying, of having fits and a great variety of unnatural mental emotions. In some cases attacks of this kind are brought on by riding in a carriage or in the cars or by any motion which causes the bones to impinge upon the spinal cord. In other cases all the symptoms are aggravated by any movement of the body which produces such impinging, and in some cases riding in a carriage will produce symptoms of violent collapse, with numbness of the legs and contraction of the muscles of the legs and general coldness of the body, followed in the reaction with nausea and vomiting.

Many of the symptoms named will be found in patients without spinal diseases, but usually as detached symptoms only. But in spinal diseases the lesion in the spine groups all the phenomena into harmonious relations showing their interdependence and origin.

In diseased conditions which are unaccountably persistent, and in which remedies usually successful produce no real improvement, the condition of the spinal column should command attention and receive careful examination.

The method pursued in examining the spine is of considerable importance. Remove all clothing from the patient's back; seat him on a level hard seat with his hands in his lap, resting neither on elbow nor on any chair or adjacent furniture. First, draw a line from the last cervical vertebra to the end of the coccyx, and notice whether the spine deflects to the right or left of that line; second, notice whether the natural curves of the spine from before backward are maintained, and note the variations, if any. If these rules are observed and the spine be carefully examined, any considerable lateral or angular curvature will be detected.

Cases of decided spinal disease may pass such an examination and not be detected. The lateral deviations may be slight and the angular curvatures seem unimportant, and yet the spinal disease may be pronounced. How this can be I will now explain.

In the first place, it may be noticed that inflammation of the bones, cartilages and ligaments may be of a high or of a low degree of intensity. In the former there is usually suppuration and such other constitutional disturbance as to arrest attention; but in cases in which the inflammation is of a low degree of intensity, there may be in the first stage swelling and infiltration of the substance of the bone and cartilage, followed by a gradual shrinkage and absorption of these tissues.

If this shrinkage is uniform, the result will be a shortening of the spine and general squatting of the body. In most cases this is not uniform, but some parts of the vertebræ or cartilages absorb more rapidly than others and one or more curvatures may result.

Such curvatures may be in any direction, single or double, and when double, one is primary and the other compensatory. Where there is a curvature of any considerable amount it is not difficult to detect it by careful examination of the spine; but where the absorption is pretty uniform and the bones merely settled together, shortening the whole spinal column, it may appear straight from above downward, and only with the natural curves from before backward. Here a little care is needed not to pass a spinal disease by undetected.

In such cases, if a patient sits erect on a level seat you will find the lower end of the ribs much nearer the crest of the ilium than natural, and that the patient has lost something from his height, measuring in some cases two or three inches less than formerly. In addition, this squatting of the body bulges the chest, and at the same time contracts the pelvis so that the chest, a little above the epigastrium, will measure from one to four inches more than the pelvic basin a little below the crest of the ilium.

When all these symptoms are found in the same patient, we may feel sure there is a falling together of the spinal column from absorption of some portion of its bones and cartilages. Displacement of the internal organs, congestion or anæmia of the cord; loss of power, disturbed function and a long train of symptoms may be developed from such disease of the spinal bones.

Inflammation of the bones of the spinal column may be of one or may involve many. Where it is of the form just described and there is a shrinkage of the cartilage and bone, especially if it is marked and confined to a few, the shrinkage may leave a relaxed condition of the spinal ligaments. *This must follow if the ligaments fail to contract in proportion to the shrinkage of the bones.* But a loosened condition of the ligaments may arise from a diseased condition of the ligaments themselves.

Where this condition is present certain motions of the body will cause a slipping of some of the spinal articulations, producing a temporary compression of the spinal cord and its vessels. If this difficulty is confined to one or two spinal articulations and is considerable, let the patient be placed upon the side and the spine be carefully examined, instead of the natural symmetry a place will be found where one bone drops by the one to which it is articulated; sometimes but little, at other times so much that no careful observation could overlook it. Let the patient be placed upon the other side and the same thing will take place at the same point.

Such slipping of the spinal bones is sometimes a large factor in the production of very many nervous disturbances. There are cases in which there is such a loosened condition of the ligaments that a bulging out of one or more of the vertebræ can be seen when the patient sits on a stool, having the appearance of a moderate degree of angular curvature. Take the patient under the arms and lift him, or raise him with pulleys so that the weight of the body rests upon your hands, or upon the pulleys, and the bones at once slip back into place and the bulging disappears.

I think that a large per cent of spinal curvatures are caused by inflammation of its bones and cartilages. In inflammation the changes in the bones go forward by a regular series of steps, following one after another according to well known laws which govern inflammation of the soft parts of the body. That is, the swelling and infiltration of the first stage are changed to fatty deposit, and followed by absorption and shrinkage of the parts of the second stage. The shrinkage may be uniform, producing a general shortening or squatting of the spinal column, or it may be special, involving only one or a few of the vertebræ; or it may be in either the anterior or posterior part of the spinal bones. If it is of the front part only and involving many of them, the shrinkage will produce a general angular curvature, the back bending outward in its middle parts and the neck and pelvis inward, or it may be by the posterior part, involving a large number, then the back will have a general curvature inward, causing a deformity exactly opposite in its appearance to the other. If it is of the inner part of the bodies of a few of the vertebræ, the angle of the curve will be more acute, and the hump on the back more prominent. If the inflammation and absorption is of a few bones and that of the posterior part of these, just the opposite curvature will result. Then the angles of the curve will be more acute, but the bulging of the bones will be into the chest, or into the abdominal cavity, according to the location of the part affected. The inflammation of the bones may be confined to one side of the spinal column, and the shrinkage from absorption may cause a lateral curvature, at an acute or obtuse angle, according to the number of the bones involved, or according to the degree of the absorption present. These cases present a great variety of diseased action, so that there will rarely be found two just alike. There may be angular curvature or lateral curvature, shrinkage of the bones and cartilages, loose ligaments and slipping of the bones, but the location and degree will give a very great variety.

TREATMENT.

When the body is erect the vertebral column bears not only all the weight of the body above a given point, but also the pressure which comes of the muscular contractions which take place during the various motions of the body. When inflammation of some of the spinal bones has advanced to the stage of absorption, the loss of substance that results throws them out of their normal axis, and the pressure upon the diseased surfaces by the greater leverage exerted by the muscles, is increased. By the action of these forces, the curvature once begun, constantly tends to further develop. The pressure upon the inflamed bones hinders the cure of the inflammation. When other parts of the body become inflamed, and the inflamed part is subject to pressure, a cure is very difficult, of which a bed-sore is a familiar example. We all know that in case of a bed-sore if we can relieve the pressure there is hope it will soon heal. So in many cases of inflammation of the bones, if we can remove a portion of the pressure from the inflamed parts improvement will begin.

In many cases of inflamed vertebræ the shrinkage of the bones and cartilages is not attended with corresponding contractions of the ligaments which make the articulations so that considerable lateral or slipping motion of the vertebral surfaces upon each other takes place with some motions of the body, and friction from this source tends to keep up if not to increase the inflammation, to say nothing of the symptoms which come from the compressed cord and its vessels.

In many forms of this disease mechanical support is quite indispensable to a cure. To attempt to cure a broken leg without splints or other mechanical supports, would be no more absurd than to dispense with mechanical supports in this disease.

In the suppurative form of this disease, in which the ligaments are much loosened, and the slipping of the bones is very apparent to the most casual observation, I think all will agree that mechanical support is necessary. In a large class of cases in which the curvature is not so pronounced as in Pott's disease, such helps are equally indispensable.

Many mechanical appliances are offered by different specialists for the cure of these inflammations. Dr. Lewis Sayre's plaster-jacket has a wide reputation in England as well as in this country. He utilizes one principle in its application which underlies the successful application of most other mechanical aids.

The apparatus used by him when applying the plaster-jacket is constructed with pulleys, to which a yoke is attached. From the yoke a pair of straps run down to the collar about the neck, and another pair to well-padded stirrups under the arms, so that when traction is made with the pulleys the head and shoulders are elevated at the same time. With extension thus applied, the trunk is elongated or stretched for the time being and the scapula and the muscles of the shoulder are lifted up so as to be more than naturally elevated above the pelvis; then strips of bandage with prepared plaster of Paris are successively applied until a thick casing for the trunk is formed, which prevents slipping of the bones and in a measure relieves the pressure on their inflamed surfaces. This plaster-jacket produces a kind of extension of the body. Applied when the body is put upon the stretch, there is a lifting or extending pressure, the pelvis forming one and the chest another point from which the extension is maintained. A well-applied plaster-jacket will have this effect for some time, but its use is attended with several serious drawbacks. It is so heavy and unwieldy that the patient cannot exercise with freedom, and while wearing it, the trunk is so far encased as to be beyond the reach of bathing and suffers from the accumulation of waste epithelium and other excretions.

To obviate this difficulty a plaster mold of the trunk is taken, under the same form of extension as is used with the application of a plaster-jacket. Into this mold prepared plaster is poured, forming an exact cast of the trunk. On this cast a brace of felting is formed, which is stiffened with gum-shellac and glue, and so made as to be put on or taken off at will. These braces have the advantage of being light and clean, and in cases to which they are adapted are exeeedingly useful; yet they have the disadvantage that many patients can with difficulty bear the strain of being strung up.

In the course of the treatment of spinal curvatures the trunk often changes its form very materially, and the brace needs to be remolded to give support to the new weakness thus brought to view. But the felting brace, when finished, is as fixed as though made of sheet-iron, and cannot be changed. If new features develop or changes come so that the brace does not fit, the only remedy is to make a new one.

A brace possessing all the good qualities but without the defects of the plaster or felting jackets, is made of *coutil* and linen cloth, accurately fitted to the body, grasping the pelvis and lower part of the back firmly, and coming up nearly to the neck, with straps about the the arms.

In the brace a series of serpentine springs of tempered brass wire is arranged to give elasticity in every direction, but at the same time a firm, strong support. Fastened in front with hooks and eyelets it can be put on or taken off with ease. The two front springs are also serpentine, having three of the fastenings fixed from the pubis to two inches above the navel, and the fourth one at the top of the springs, so there is a yielding between the two upper set of fastenings, allowing the breathing to be performed with ease. This brace can be molded to the shape or deformity of the body, and by remolding kept up to the changes as they go on in the trunk, and thus render a most constant and valuable service. Viewed in all ways, it fulfils the varied wants of a mechanical support in the treatment of diseases of the spinal bones, with less objection and more success than pertains to any other.

To give some illustration of the practical working of the principles here stated, I will cite a few out of many cases that have come under my care. By these it may be seen that many protracted and severe diseases here find a solution, and that many so-called cases of nervous prostrations are caused by disease of the bones of the spinal column.

Case 1. Mrs. William Maloon, of Salem, Mass., had been an invalid for six years. For three years confined to her room, and most of the time to her bed or lounge. She had great weakness of her legs, much aching, drawing pain, and jerking and cramps in her legs; cramps in her stomach and bowels; vertigo and sick stomach. All these symptoms and many others were very much aggravated by getting up, walking, or any other exercise. Her troubles of nervous prostration were supposed to have some relation to some spinal trouble, for which she had been treated, though its exact nature had not been discovered. A careful examination of her back showed that she had inward angular curvature of the two lower dorsal and the two upper lumber vertebræ. When she laid upon her side, the last dorsal would slip by the upper lumber vertebræ more than half an inch, and when lying on the opposite side the same slipping would occur, showing the extreme movement of the bones from right to left to be about an inch.

She had a felting brace applied which stopped the slipping of the bones, and in four weeks after it was applied she rode eighteen miles in a carriage, without inconvenience and improved in all respects. She wore the brace for more than a year, when her form was so much changed as to require a new one. From this time she wore braces made of *coutil*, with serpentine brass wire springs, for three years. She now attends to her family and enjoys comfortable health.

Case 2. George O. Batchelder, Aet 65, 2675 Washington Street, Roxbury, Mass., had been ill four years. Had attacks of violent distress in the region of the heart, with difficulty of breathing and great general anguish and fear of death. The attacks were attended with distress in the stomach and were likely to occur after eating, from walking, riding, or stooping, and in general from any exercise. The examination of the heart showed nothing abnormal. The trouble dated from a strain in lifting a heavy load, when he felt something give way in his back. During the time he was disabled he had been obliged to give up all business, and had been under the care of many physicians without benefit.

He had a double angular curvature of the spine, the lumber vertebræ curving inward and the dorsal outward through the middle part of them, and again inward towards the neck.

I applied a brace on the theory that the lifting had injured the bones of the spine, and that chronic inflammation in them, together with the curvatures, disturbed the functions of the spinal cord and produced the disturbance in the heart, stomach and other organs. Improvement commenced soon after he began to wear it, and in eight months he could do a clerk's work in a provision store. His health is not perfect, but he is free from all severe distress and lives quite a comfortable life.

Case 3. Mrs. Clifford B. Bray, Beverly, Mass., was subject to severe pains in her back between the shoulder blades; pains in the arms, with weakness so that she feared dropping what she held in her hands; pains in her legs, with weakness of them, and fear of falling; aching of the knees; throbbing in the walls of the left chest.

An examination of her back showed a curvature of the five upper dorsal vertebræ to the left, and of the next five to the right, and an angular curvature outward at the fifth and sixth dorsal vertebræ. She had been out of health more than a year, and dated her trouble from the time she had injured her back.

A brace was applied in August, 1883. In two weeks from that time the pains in her back, arms, and legs were better. She wore the brace for a year and a quarter, and was fully restored to health.

Case 4. Mrs. Willis E. Smart, Danvers, Mass., had been ill more than a year. She had sharp pain and pressure as from gas in her stomach, coming one or two hours after eating; attacks of violent pain located in the region of the gall bladder, which was cutting, tearing, and so violent that she inhaled chloroform or had hyperdermic injections of morphine to relieve it. She had taken a variety of medicines from several physicians without permanent benefit.

Examination of the back showed a double lateral curvature, the convexity of one, to the right, was at the fourth and of the other, to the left at the eighth dorsal vertebra, and some angular curvature outward of the same bones. The trouble of the back dated from a mechanical injury.

A brace was applied in June, 1883. After it had been worn a couple of weeks she had no more violent pains, and the lighter ones gradually passed away, and a full cure was the result. The curvatures were very much lessened, though not entirely removed.

Case 5. Alfred A. Hunting, Aet 28, 26 Dock Square, Boston, Mass., consulted me in July, 1882. For more than three years he had had spells of persistent and protracted vomiting, which had been worse the last six months. He also had sharp pains in the sides and back of his head, pains in the left shoulder blade and up into his head, pains in his back, just above his hips, worse from exercising, walking, and standing; a sensation as of slipping of the bones of the back, at the second lumber vertebræ, coming on when walking, and producing excruciating pains, weakness, and giving way of the legs. Exercise increased the vomiting and the pains in his back and head.

Though he was in fair flesh he had a languor and general debility that was unaccountable. The most careful medication produced only temporary relief. I then inquired about his back, and on examination found curvature inward of the two upper lumber and two lower dorsal vertebræ, and a lateral curvature to the left of the 5th, 6th and 7th dorsal vertebræ. The floating ribs were less than an inch from the crest of the ilium, showing that the inflammation in the bones had already reached the second stage, and that shrinkage had taken place in them, shortening the spinal column three inches. This was corroborated by his height, which was only five feet seven inches, when at the age of sixteen it was five feet and ten inches.

Nine years before, he, with others, was carrying a heavy load which was suddenly thrown upon him, when he felt his back give way at the present location of the curvature. He suffered greatly with pain for some weeks, but when the acute pains grew better it was looked upon as cured, and he went about his usual employment. Sick stomach, headaches and other constitutional disturbances gradually developed after that time.

It was now apparent that the disease of the spinal bones caused the other disturbances. I advised mechanical support. A brace was applied and worn a year and more, with but partial relief. I applied one made of *coutil*, with serpentine brass wire springs, which gave his spine full support, and since its application he has steadily improved. He has gained fifty pounds in weight, and attends to his business with comfort, free from all constitutional disturbances, and with quite a full enjoyment of health.

Thus I have attempted to show the relation that certain constitutional disturbances bear to some diseases of the bones of the spine. The therapeutics of these cases is omitted. In some future paper that part of the subject may be presented.

It is hoped that the principles and rules here stated will not only aid in diagnosing, but also in effecting cures of many obscure forms of disease.

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SOME GENERAL REMARKS
ON
BLOOD-LETTING.

BY

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SOME GENERAL REMARKS ON BLOOD-LETTING.

BY G. MAXWELL CHRISTINE, A.M., M.D., PHILADELPHIA, PA.

I KNOW upon what tender ground I am treading, in a reference, before a homœopathic society, to blood-letting, despised and rejected, as it has been, by the greater number of homœopathists, from the time of Hahnemann down to the present day. I am, likewise, aware that the discussion of such a subject, in this place, and under these circumstances, will be viewed by some as being without the domain of a homœopathist's study, and, therefore, an unwarranted innovation; and, by others, as an unearthing of a mode of treatment, long ago buried beneath the notice of a follower of Hahnemann; but I hope it will be regarded by, at least, a few, and finally by all, as in consonance with the trust which our office, as physicians, imposes upon us.

The misgivings, in the choice of this subject, have been dispelled by the contemplation of the spirit, quietly but effectually at work in our midst, toward effecting a harmony of action between the operation of Hahnemann's law and the use of palliatives, so-called. Furthermore, the presentation of this paper has sufficient justification in the expressed thoughts of valued contributors to our literature, if that were necessary; for, from the pen of Neidhard, Goodno and Pitcairn, we have, respectively, the following:

Hahnemann's law of cure "does not deny the necessity of *occasional palliative means*,*, when the true simile is not found, or when a cure, according to the nature of the case is impossible."

"One may believe what he will, concerning the infallibility of remedies prescribed according to Hahnemann's law, the bald fact, that we do not cure all our cases which, seemingly, ought to be cured, stares us in the face. . . . . *The practitioner, who does less* (than to use drugs physiologically prescribed to tide over the patient until such time as we can prescribe more successfully), *is unworthy of the name physician.*"

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* Italics by the author of this paper.

"We must familiarize ourselves with and investigate all things pertaining to therapeutic science, holding fast to that which is good. . . . . One of the elements that contributed to the phenomenal success of homœopathic practitioners in the past, was that, while believing firmly in the fundamental principles enunciated by Hahnemann, they were yet broad-minded investigators of the truth from every source and all the schools, recognizing the ever-widening, expanding, increasing range of discovery and improvement."

Quotations of this kind could be numerously multiplied, each furnishing good reason for the occasional, or even frequent, stepping aside from a reliance upon the homœopathic law to the adoption of some other, designed to reach a result which, in its attainment, might be far from homœopathic, but which, nevertheless, would not be, in any wise, destructive of, or damaging to, the truth of the law of similars. The true and the safest conception of homœopathy is that "the law of *similia similibus curantur*, is the *chief*, though not the only, foundation for therapeutics." * And I would ask, whether, simply because blood-letting is not treating disease by the homœopathic law, we should reject it as unworthy our attention? And yet, many do so, without having given the subject even a momentary thought, preferring, in their devotion and zeal to homœopathy, to struggle against disease "on that line, even if failure is the result." Is the fidelity to a principle, which means the erection of a wall between the castle in which it sits enthroned and the practice of life, necessary or even wise? I think that those who are broad and liberal-minded, will answer with me, no, to this question, and will see in the resort to blood-letting or any other similar measure, no lack of faith or belief in homœopathy; nor in my treatment of the subject before a homœopathic audience, a questionable or deficient veneration for Hahnemann and his system.

I believe that we fail in our manifest duty, if we reject the assistance blood-letting affords in the treatment of certain inflammatory affections. More than this, I believe that he who so rejects it, is guilty of a violation of a deep and certain obligation we owe our patients, to leave nothing undone that will ameliorate suffering, cut short disease, and prolong life.

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* Kidd.

In the days of long ago, when the blood-letter's vocation was chief to that of the physician, when copious bleeding from the arm was the first thing done in every disease, without reference to indication or contraindication, and when Darwin's theory of the "survival of the fittest" (or the strongest) held dominant sway, it was the natural result that reaction should ensue, and that that which, in certain instances, was invaluable, should now be so completely abandoned that few would dare again to advocate it.

In company with this exile, went the emetics and purgatives that, for a long time, were so destructive to human life. But, in that period these agencies were employed indiscriminately, and fortunate was the poor sufferer who survived his bleeding, emesis and purgation. Yet emesis and purgation have their uses. Misuse does not militate against the proper use of a means ; it simply calls for care and discretion in the use. This is an age of scientific investigation. Disease is closely studied, and every phase of it is watched and noted. Medicinal and other remedial agents are not administered haphazard, but their effects on health and disease are made the subject of deep and prolonged inquiry. The physician intelligently watches disease, and applies his remedy, and does not work, as formerly, with both disease and remedy shrouded in darkness. The art of blood-letting has felt the impress of this change, and to-day it is the sheet-anchor of hope in cases, otherwise doomed. Its reckless misuse in former times has been succeeded by the establishment of definite rules, whereby good, and not evil, may be consequent upon its employment.

But, says some one, "Consistency is a jewel, and how can a homœopathist, true to his colors, employ blood-letting, and yet be consistent?" I see no reason why the homœopathist cannot consistently employ blood-letting with as much freedom, so far as consistency is concerned, as he would use purgatives or enemata, with which to unload a rectum overfilled and inactive, or an emetic to eject from the stomach an offending poison or food-mass, or a trocar to relieve an ascites. These are measures not to be set aside, and their use by the homœopathist is, in nowise, a sign of disloyalty. No more so is a resort to blood-letting.. Purgation, emesis, blood-letting, etc., when rightly used, are handmaids to our treatment of disease, and, because we are homœopathists, renders this statement none the less one of fact.

In recommending bleeding, whether by lance, cup or leech, for certain inflammatory conditions, I do not lose sight of the statement of many, that there is no need for it, inasmuch as homœopathy has the condition which blood-letting is designed to control, completely under the management of its drug-remedies. In my experience, and as far as I have been able to learn from the practice of others, the statement that homœopathy is sufficient in all instances of disease, is without stable support. I cannot conceive of a drug-remedy, under any theory or by any mode of administration, doing the work really designed of blood-letting, and this is said with a just estimate of the power drug-action asserts over the circulatory system, and hence over inflammation. This is illustrated in the relief afforded, and the cure effected by the cupper, in cases which, before application to him for the exercise of his art, have in vain exhausted the skill of the physician's medicinal treatment. I have had enough instances of this kind to come under my notice, to free this statement from possible over-coloring. Some of them have been cases coming from the care of practitioners in our own school—men, undoubtedly skilled in homœopathic treatment. Medication was futile; it was the cupper's art that was needed.

Now, if homœopathy, with all its brilliant array of victories won over inflammatory conditions, will but take unto itself this measure, study it with respect to its relation with drug-remedies, note where the one is indicated and the other contraindicated; and where the one ends and the other begins, our school will but strengthen itself, and be able to present a more solid and invincible front to the dread feller—Disease.

With this somewhat long, and yet not unnecessary premise, let me pass to the consideration of inflammation, and its treatment, in certain of its phases, by blood-letting.

INFLAMMATION.

Inflammation as defined by Wyeth is a " condition of animal tissues which are undergoing certain disturbances in nutrition which produce hyperæmia, heat, redness, swelling and pain." But as described by Wagner, " the essential phenomena of acute inflammation is the congestive hyperæmia of the vessels, exudation of serum and fibrin, and the exit of red but especially colorless blood corpuscles, which latter form the pus corpuscles." In every case of inflammation there is a certain course, beginning with the irritation—the manifestation of the cause—and passing through contraction of the vessels, dilation of the vessels, acceleration of the current and hyperæmia, retardation of the current, redness, swelling, heat, pain, escape of vessel contents, on to cicatrization. In ordinary inflammations like that resulting from the scratch of a non-infected needle, these phenomena are so mild in character as to pass from one to another without much discomfort, and with no effect but a local one. But in an inflammation of a more serious type, such as that of pneumonia, the various stages occur in a very acute form, and the effect is general as well as local. In the needle scratch, the inflammation is mild, and nature may be allowed to work out a recovery. But in higher grades of inflammation, where organs are implicated and life is in jeopardy, the various phenomena assume serious conditions, and the art of the physician is necessary to be added to the forces of nature, in order to effect a cure, or curtail the disease. Now, as we watch a typical inflammation, and none better is furnished than a simple acute pneumonia, we first become impressed with the necessity for relieving the congestive hyperæmia, which is responsible for the redness, swelling, heat and pain. If much time has elapsed from the initial irritation, and the stage has been reached where an escape of the vessel contents has begun, the period has mostly gone by when treatment directed to the hyperæmia, and its direct results, is fruitless. But early in the course, before the congestion is most active, and the fire of the fever is fiercest, much, very much, can be done toward lessening the suffering and shortening the process. The pharmacopœia is full of medicines designed for this purpose. Thus we have aconite, belladonna, veratrum viride, etc., all having indispensable value. But none of them can accomplish what would seem to me to be an essential requisite in certain highly inflamed conditions at the hyperæmic stage, namely, the diminution, by actual extraction, of the disorganized surcharged blood.

This is best illustrated by referring to a pneumonia occurring in a full-blooded individual, or in any ordinarily so. Note the intense dyspnœa and pain, the natural and inevitable manifestations of the engorged pulmonary tissues. Early in the disease, when the respiration is increased, breathing difficult, the cough violent and distressing, the pulse rapid, full and strong, and the fever high, do not these seem to plead for a lessening of the tension of the blood-current? It seems to me to be unnecessary to argue the statement that the abstraction of blood from these vessels will, by lessening the engorgement, likewise modify the symptoms and hasten the period of repair. A heart, laboring to force the blood through a congested lung, is like a fire engine trying to force a water current through a bent hose; the effort is too great, and something must weaken or give way. The heart, with its increased labor and lessened nutrition, weakens under the work. We may apply our internal remedies for sustaining the heart, but there is no agency so effective for such a purpose as the actual evacuation of enough of the inflamed blood to give relief.

Now, this abstraction is not curing the disease; it simply is intended to shorten and modify the hyperæmic period, giving the patient at the same time relief from the symptoms coincident with that period.

But before we proceed further with this reasoning, let us inquire whether bleeding in the healthy person is attended with harm. We may answer the question in the negative, under the reservation of proper care in the act. To my own knowledge, there are no less than five persons, my acquaintances or patients, who make it a practice in the spring of the year to be bled ten or twelve ounces from the arm. Each of these is a person in the best of health, which is not in the least injuriously affected by the loss of blood. In fact, all contend that they are much benefited. Wiltshire quotes from Sir James Paget in this wise:

"I can regard those (the practice for adults to be bled as regularly as they went to market) as a series of venesections fairly performed for the determination of what is the influence of the removal of blood up to the period of syncope upon a comparatively healthy person. I think I can say surely that not one of these persons suffered harm." In the absence of any proof to the contrary of the above statement, but with the support of much evidence in its favor, I can safely assume that blood-letting, under necessary precautions, in the healthy, is unattended with harm.

Let us understand that if in health we can lose blood without evil result, in inflammation where the vessels are under enormous tension, and the blood is loaded with fever products, that blood can be taken away from the affected parts without weakening the system, and that the inflamed parts thus relieved are assisted to a speedier process of cure.

Agnew, whose writings are of no less value to the new school than to the old, says, "When I see a headache disappear, as if by magic, after a slight bleeding of the nose; a lung, in pneumonia, relieving itself by a bloody expectoration; an erysipelas affecting a stump after amputation, resisting every remedy, but vanishing in a night after a slight secondary hæmorrhage, I do not hesitate to say that I still find it necessary occasionally to employ the lancet." In this sentence let us note the word *occasionally*. Agnew does not advise the constant or the frequent use of the lancet, but its occasional, appropriate use; not that we should carry the lancet in our pocket to keep company with our watch key, and to be used as often as the latter is used; but that it should be at hand for use in properly indicated cases.

In the application of blood-letting to the treatment of disease, certain indications are clearly defined.

The first is an over-distension of the right, and a similar condition of the left, side of the heart. In distension of the right side of the heart there is venous, and in distension of the left side of the heart there is arterial en~~dis~~gorgement. In the first mentioned of these, the venous system is under great tension by reason of the contraction of the smaller arteries, causing a diminished amount of blood in the arterial system, in turn giving rise to an engorgement of the venous system and a hampered right heart, indicated by a small, hard or wiry pulse. In the other condition, the arterial system is under great tension, the left side of the heart is hampered, and the venous system is comparatively bloodless, the pulse being full and bounding.

Having on the one hand a full and bounding pulse due to super-arterial tension, arteriotomy is indicated, which if practiced will tend to equalize the circulation; and on the other hand, a small and wiry pulse, due to venous congestion, venesection is to be practiced with the result of restoring the equilibrium of the blood currents.

In resorting to blood-letting for the equalization of general venous or arterial systems from engorgement, care, of course, is necessary as to proper diagnosis. Wiltshire, whose article in Quain's Dictionary of Medicine, I commend to the student and practitioner as the most concise and satisfactory of any of which I have knowledge, says: "Whether the right or left chambers be taxed, the immediate effect is the same; they are over distended, and cannot get a grip upon their smaller currents. Over-distension paralyzes by removing the *points d'appui* essential for the initiation of muscular contraction; the energy may be there but it cannot be exercised." He further adds, that "It is obvious that the amount of blood which it is necessary to draw, in order to free the embarrassed organ, must vary considerably in different cases. But it may be safely laid down as a rule that it need rarely exceed a few ounces. Excess in this respect is the evil which formerly existed." Sir Thomas Watson is quoted in the same article as follows: "I hold it . . . . to be certain that for some special morbid conditions, which inflammation may or may not accompany, general blood-letting and especially venesection, is a patent and life-preserving remedy; that there are many exigencies for which it is not only safe to employ, but unsafe and unpardonable to withold it."

I have no doubt that blood-letting is capable of producing better results than can be arrived at by any other means, not excluding such remedies as aconite, belladonna, veratrum, etc. I must not be understood as advocating the setting aside of these remedies and putting blood-letting in their place, in any other than typical cases, Medicinal remedies are more frequently indicated and of service than is blood-letting. If the latter were to assume the office of the former in every inflammatory condition, inevitable harm would result.

Some time ago, I had, within a month of each other, two patients each with pneumonia. It is not often that we get two patients so like each other, having similar diseases, at about the same time. These two men were large and robust, but addicted to an occasional spree. After one of these debauches, each was attacked with pneumonia. In each the symptoms were identical, the lung engorgement, fever and meningeal congestion being extreme. The proper remedies were administered without relief to the patients. At the suggestion of a member of the family of one of these patients, I was induced to bleed him, three or four ounces from the arm by the lance, and the same quantity from the chest by cups. The relief from the heart tension, dyspnœa, pain, cough, and headache was instantaneous and permanent. In the other case I was not permitted to use this measure, and my patient died. Bleeding saved the life of the first; it would, in my judgment, have also saved the life of the second. I do not mean to assert, or even intimate, that every case of pneumonia should be bled, cupped or leeched; but I do assert that many fatal cases could have been saved by the timely and judicious extraction of blood. I say this respecting the treatment by our own school as well as by others.

Constitution, age, condition of the nervous system, heart, kidneys, the nature, place and period of the inflammation determine the need and advisability of blood-letting by one of the methods of lancing the arm, cupping and leeching. In pneumonia, bleeding is best effected by cup or leech to the chest. Bleeding from the arm is not now so frequently practiced, and I myself rarely resort to it. When the pneumonia has passed into the stage of hepatization, blood-letting is of comparatively slight avail, unless simply to relieve the over-taxed heart, but at this time active congestion is over, the system is more devitalized, and there is no longer need for blood-letting. It is early in the pneumonia, when congestion is at its height and the disease is purely sthenic, that cupping or leeching is of value.

In threatened *cerebral congestive apoplexy*, when rupture of the vessels and hæmorrhage have not taken place, bleeding from the arm, or by cups or leeches at the neck, or on the temple, stays the process and averts the stroke. In these cases in which the lesion is not in the affected vessels themselves, I have found bleeding to be of inestimable value. Some practitioners resort to it even when some slight hæmorrhage has taken place, but I would advise it only in threatened increase of the trouble. Bleeding can have no effect upon the already escaped blood, but can considerably aid in preventing further escape, if such escape is due to high tension. It is this high tension that furnishes the best indication for blood-letting. Bleeding should be prompt and free, the amount not to exceed five or six ounces. I have noted brilliant effects from one leech, the capacity of which was less than an ounce. The quantity to be abstracted must be left to the judgment of the operator. Flint very properly says of blood-letting in treating sudden coma from cerebral hyperæmia, that "Its supposed evils are of no moment, taken in connection with the importance of properly diminishing the power of the heart's action, the arterial tension, and the intracranial compression."

In *pleurisy* I find cupping to be of decided advantage, not alone because of the counter-irritation, but as well because of the lessening of the vascular tension in the inflamed pleura. It is only in simple acute pleurisy occurring in a strong, or ordinarily strong, individual, that I would resort to general bleeding. If complicated with pneumonia, I would not resort to general blood-letting unless the dyspnœa and pain are marked, but rather would depend upon the use of cups, and the extraction thereby of a few ounces of blood. This remarkably diminishes the pneumonic distress and pleuritic pain. I am not positive, however, that the course of pleurisy is very much curtailed by a resort to blood-letting, nor is there any evidence that it lengthens or aggravates it, but it undoubtedly affords relief to the pain and lessens the fever—two important desiderata in acute pleurisy.

In iritis, the hyperæmia and the intense ciliary pain which accompanies this affection, are each greatly modified by leeches to the temple. The slowness of the natural leech can be overcome in these cases by using the artificial leech of Haurteloupe. Wills advises the leeching to be done in the evening to relieve the nocturnal exacerbations, and directs that the bleeding be favored by hot fomentations. No medicinal remedy is so prompt and efficient.

In the treatment of choroiditis, retinitis and optic neuritis, leeching has its place and value. The congestion and pain together with the strength of the patient, are to be guides as to the time and quantity of the blood-letting.

In *insolation*, bleeding sometimes achieves satisfactory results. The loss of from four to six or seven ounces of blood will very early in the attack, often avert a fatal issue. A tendency to syncope is a contraindication. But early in the attack the indication is positive and clear. There is a decided objection on the part of some practitioners to this treatment, but, in my own experience, only one case of insolation in which I resorted to bleeding died; the large number of others recovered. In this fatal case, I bled to satisfy a bystander, after informing him that it was beyond the power of blood-letting or any other agency to avert a fatal issue.

In *plethora*, sthenic in type, free venesection to the amount of eight or ten ounces is frequently advisable, and nearly always beneficial. Arteriotomy is theoretically preferable to venesection, but the former is less convenient and the bleeding is not so readily controlled, though this should not deter the operator, if there is any absobute necessity for a choice of the first over the second. In asthenic plethoras bleeding must, of course, be resorted to with caution, if at all.

This paper has already grown too long, my purpose being to deal in generalities only, reserving minute consideration of the subject for another occasion. The list of diseases and affections given is simply suggestive; it can be added to very considerably. The principle is the same throughout all,—that of affording by blood-letting a speedy exit from the system of unnecessary and devitalized blood, and a quick and decided relief to the tension of the vessels.

Let those who have never been taught the value of bloodletting seek opportunity for its careful study and application. They will find in it no many-headed monster, bent on an invincible course of destruction to those upon whom the art is practiced, but a life-saving principle worthy of their confidence. Let those who, in their younger days, bled on every occasion, and in later years rejected it entirely, consider whether it might not find a judicious place in their practice.

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TRACHEOTOMY

IN

Diphtheritic Croup.

BY

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TRACHEOTOMY

IN

DIPHTHERITIC CROUP.*

The subject to which I invite your attention this evening has, like many other surgical procedures, called forth the greatest diversity of opinions from those whose learning, experience, sound judgment, and justly exalted positions challenge our attention and careful consideration. So diverse do we find these opinions that, should one desire to extol the operation and prove its simplicity, easy accomplishment, safety, and advantages, he can produce a formidable array of great names to sustain him in that position. So, on the other hand, if one wishes to condemn tracheotomy as being difficult and dangerous in its performance, hazardous in its consequences and unsatisfactory in its results, an equally brilliant list of authorities can be cited to bear out this conclusion. In this paper we do not pretend to any originality; but our aim will be to present for your consideration the views we entertain on the subject, founded upon a careful perusal of its literature, both pro and con, and viewed in the light of our limited personal experience. Renewed impetus has been given and interest excited in the premises within the past few months, by the appearance in various journals of some very able and exhaustive articles, and the citation of a number of successful operations.

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The busy practitioner, reading some of these papers and seeing familiar and high standing names quoted in support of the views advanced or entertained by the writer, is prone to accept the deductions as drawn, not having the time to give the subject personal examination, and seek the opinions of others, which, if known, might lead him to very different conclusions.

Let us first consider the dangers and difficulties or simplicity of the procedure. Is the operation in itself dangerous and likely to add an additional unfavorable element in a case already desperate? Some say yes; others, no. What are the dangers? Hemorrhages, either primary or secondary, ulceration of the trachea from the pressure of the tubes, emphysema of the neck, *dècollement*, or the pushing of the canula between the wall of the trachea and its lining membrane, cervical cellulitis, abscesses, necrosis of the cartilages, granulations about the wound and extending into the trachea; tracheal fistula, erysipelas and diphtheria of the wound, constitute pretty much all the unfavorable conditions which may attend the operations.

With these possibilities before us, we cannot agree with those who regard the operation as free from danger. We would not magnify these unfavorable accidents, nor should we ignore them and make the operation unless urgently demanded. As regards the performance of tracheotomy, one is astonished at the variety of opinions one finds; some considering it so simple that it should be ranked among the minor surgical procedures, while others characterize it as one of the most difficult in surgery. We have never met with an accident; but from what we have seen we regard the operation as being one requiring great care, judgment, presence of mind and deliberation. That while in some cases it seems simple enough, in others it is extremely difficult and annoying, and calculated to call forth a sigh of relief from the breast of the most expert operator when once the canula is safely in place. We certainly are convinced that those who hold that the operation is simple and easy in the main, should be ranked with those who from time to time assure us that they experience no difficulty in curing gonorrhœa or gleet.

Let us next consider for a moment the mortality of diphtheritic croup, and its causes. Statistics, taken collectively, show that the disease is fatal in about ninety per cent. of the total number of cases, in some epidemics reaching even a higher ratio. The fatal issue is determined in a very large proportion of the ninety per cent. in young children by the mechanical obstruction to the entrance of air to the lungs; only the minority die from other causes, as heart failure, respiratory failure other than that due to laryngeal stenosis, renal complications, inability to swallow, etc. Given then a case of diphtheritic croup, we may say, with a considerable degree of assurance, that the patient will die, and that the mode of death will be by asphyxia, due to stenosis of the larynx, the result either of membranous deposit, œdema, or a high degree of inflammation, with sub-mucus infiltration and imperfect movements of the vocal cords, under which circumstances continuous spasm or accumulation of tough, viscid suppurative or partially plastic secretion may completely occlude the laryngeal lumen. With this outlook, the indications are clear. Get rid of the obstruction, whatever its nature, by the exhibition of appropriate remedial agents, systemically and locally applied; but if in spite of such efforts the stenosis increases, we cannot longer hope to remove the cause in time to prevent the fatal asphyxia; we can obviate its effects by the operation of tracheotomy. A *dernier ressort?* Yes, as against the most urgent symptom, for we must put the general disease in the back-ground in presence of the threatening suffocation, and, when that has been averted, we have gained time to ply our remedial measures with perhaps better success, the result of a happier selection, or, nature having another chance and a crisis being reached, the respite becomes salvation.

It is claimed that the narrowing of the laryngeal lumen, with its resulting impediment to the free ingress of air to the lungs, is capable of exciting, *de novo*, pulmonary disease. We do not doubt but that *extensive* interference with the passage of air to the lungs may produce the results claimed; but we believe that the lungs (as we see in other active organs in the body) are capable of adapting themselves to altered conditions up to a certain point without detriment, and would do so in the presence of a limited degree of laryngeal stenosis in diphtheritic croup. But if the impediment to respiration passes this point of tolerance, then the lungs must suffer and pathological changes be excited. It is impossible to tell when this point of tolerance has been attained. An amount of stenosis, which, under other circumstances, would be insignificant, could but tend to aggravate, at least, an already existing lung difficulty, or excite its development in a disease like diphtheritic croup, which, in its normal course, manifests a disposition in that direction, for we have seen that pulmonary failure, other than that due to stenosis of the larynx, is one of the causes of death in the disease in question.

These considerations bring us to one of the most important questions that can arise in a case of the disease under consideration, namely: When ought tracheotomy to be performed? The same diversity of opinion obtains on this point as on the others, and so we find early, timely and late operators. The terms "early" and "late" are relative and need a little consideration. We find that early operators are generally, if not always, those who regard tracheotomy as being free from danger, simple and easy in its performance, and hence are prone to advocate its adoption before urgent symptoms manifest themselves, claiming that if the procedure be not at that moment necessary, it likely will be later on and so had better be done at once; that, should the stenosis increase, pulmonary developments will be prevented; that strength will be saved, and so enable the patient to contend better with the original malady; that much suffering may be prevented; that the insertion of the tube will prevent the extension of the disease below the larynx; that the patient is in a better condition to endure the operation; and, lastly, that even if the operation is not absolutely necessary, it can do no harm, and would be an error, if an error, in the right direction.

Late operators are those who regard the procedure as difficult and dangerous in its execution, likely to present in any case conditions that cannot be guarded against and which may be fatal, and, even if successfully accomplished, exposes the patients to dangers independent of the disease for which it was undertaken. They believe that experience proves that some cases—few, it is true—but still some do recover from a condition which seems hopeless, without tracheotomy, in which the operation, for some reason, was withheld; that the arrest of the disease at the larynx, if it has not already extended beyond that point, is not effected by tracheotomy, therefore the operation should only be done, with rare exceptions, when asphyxia is imminent, when cyanosis and sopor are present and the powers of life rapidly declining.

Between these extremes we find the "timely" operator, a term introduced by Prof. Silas Cohen. It is he who has watched by the patient for hours, who has noted the course and development of the stenosis, the character of the respiration, the frequency and quality of the cough and voice; who has observed the frequency and degree of laryngeal spasm, the increasing anxiety and restlessness and gradual loss of strength; who has examined the chest and the urine. It is he, we claim, who is best able to judge when the timely hour has arrived. If one is called in to decide the question as to the advisability of surgical interference, all these data should be obtained from the attendant and the present condition of the patient read in the light of such information.

Are there any evidences by which we can locate the obstruction and which will declare its nature and warn us that the timely hour has arrived? Marked dyspnœa, with retrocession of the supra-sternal, supra and infra clavicular tissues and of the intercostal spaces and structures at the base of the thorax, with stridor during both inspiration and expiration, frequent laryngeal spasms, gradual extinction of the voice and cough, indicate that the obstruction is in the larynx, and if this condition is *abiding* we may conclude that infiltration or exudation is the cause of the stenosis. If with these manifestations the stenosis is progressive; if cyanosis develops, evidencing a deficiency of oxygen; if the agitation becomes less, with a tendency to apathy or sopor, indicating carbonic acid gas poisoning; if the patient cannot raise the mucus and shreds; if the pulse is becoming more feeble, then we may conclude that the timely moment has arrived and that the operation cannot be safely longer postponed. It is very difficult to determine whether the bronchi are occluded or not; but the most reliable indication that the obstruction is pulmonary rather than laryngeal or tracheal, is continuous and augmenting dyspnœa with gradual asphyxia and the absence of depression of the soft tissues about the chest, as previously mentioned, during inspiration.

There is no difference of opinion as to what should be done in extreme cases.

Tracheotomy may be undertaken while the patient is comatose or moribund, nay, even if respiration has just ceased; it is a desperate chance, under such circumstances; but here, if ever, one can argue, if no good arises, at least no harm can be done. The operation affords a chance, and without it death is inevitable. We have already spoken of the prognosis in diphtheritic croup, and found that about ninety per cent. of such cases perish.

Do the statistics of tracheotomy in this disease speak in certain tones and enable us to arrive at any positive idea as to its value or otherwise? First, we may say that the operation is rarely successful in adults; probably because the trachea in such cases is so large that before a sufficient amount of membrane has been produced as to threaten asphyxia by occulusion of the larynx or trachea, the disease has already invaded the bronchi and hence cannot be influenced by tracheotomy. Trousseau, who was a great advocate of this operation, claimed that the procedure saved from a quarter to one-half of cases of diphtheritic croup, and Sanné had one cure in 2.28. Dr. Geo. Lefferts, of this city, has told us that he has frequently operated and has never seen a case recover. Dr. Jacoby says that tracheotomy saves but few of those who take the disease during severe epidemics, and that in fifty consecutive tracheotomites from 1872 to 1874 he did not see one recover. Later, however, his experience has been more favorable. Within the past year or two many successful cases have been reported and the operation is undoubtedly gaining in favor. Our own experience is confined to eleven cases, occurring under various social conditions, and give as a result six fatal cases and five successful ones. Two of the fatal cases may have owed their unfavorable issue to other causes than the original malady or the operation, and should, perhaps, be stricken from the list. The cause of death after a timely and well performed tracheotomy are: extension of the exudation, paralysis, systemic infection, albuminuria, pneumonia and fibrinous deposits in the heart cavities. These causes should be well borne in mind and the attendant ever on the alert for their early detection and treatment. The gravity of the original diseases and the stage at which the conditions arise that call for the operation, we think materially modify the prognosis. Our failures have been mostly in cases where the disease was progressing, as evidenced by increasing amount of exudation in the fauces and progressive systemic depression, while our successes have been, for the most part, in relapses of the disease, the larynx and trachea becoming invaded after the patient seems to be recovering; as manifested by the diminution or disappearance of the exudation in the fauces, return of appetite and increase of strength.

Faithful, uninterrupted watching of the patient by competent attendants we would lay the greatest stress upon as influencing the prognosis. So strongly do we feel upon this point, that unless we were convinced that the patient would have by his side night and day, a faithful nurse until the tube was removed, we would decline to operate. The mucus that is coughed through the tube is so tenacious and dries so quickly about the orifice of the canula, that its calibre will be diminished to a degree that will in a short time prevent the admission of sufficient air, and the patient may die from gradual asphyxia, as he would have done had the operation been withheld; or the asphyxia may be suddenly induced by the closing of the tubes by mucus or a piece of membrane. Even if he escapes this immediate result by the opportune cleaning of the tube, still the additional strain to which the lungs have been subjected by delay in so doing, may be enough to determine the development of fatal pulmonary lesions. In cases of diphtheritic croup, in which malignant manifestations are not pronounced, if the croupy symptoms have appeared late, if the signs of asphyxia have not existed in a marked degree for a length of time, if competent and trustworthy nurses can be obtained, we believe that a timely operation will in the majority of cases prove successful. Even in malignant cases, with profound prostration and extensive exudation, we think that while the prognosis is very grave, still a favorable issue may be anticipated with a sufficient degree of assurance as to warrant the operation.

We will not describe the operation in detail, referring you to any of the text books on surgery for directions as to its performance; but even at the risk of carrying coals to Newcastle, we would call your attention to a few things connected with the operation, which have impressed our minds very forcibly. Ether should be administered, unless the patient is comatose; chloroform we object to as dangerous from its depressing effects on a heart already enfeebled. First, we would condemn, without qualification, the employment of all instruments called tracheotomes, that are intended to be plunged into the trachea, either with or without the previous dissection of the superimposed tissues. The dangers are of wounding some vessel; of missing the trachea altogether and entering the tissues on one or the other side, or even in front of it; of transfixing the trachea and entering the œsophagus. Emphysema is more likely to result from this mode of operation. And lastly, an accident may happen if a certain condition is present, that will quite surely be followed by fatal results. We refer to the trachea, at the point of operation, being lined more or less extensively with a membrane which will be detached and pushed before the advancing instrument and so plug up the trachea beyond the extremity of the canula. To remove such an obstruction is nigh unto impossible, with no other access to the trachea than that afforded by the fistulous like passage made by the instrument. No less would we condemn, except in rare instances, rapid operating, as though such were synonymous with brilliant operating and evidenced true surgical skill. Many are the patients who have perished as the direct result of such exhibitions of surgical dexterity. In our opinion, the advice given by Trousseau cannot be too forcibly impressed. He says; "I cannot too strongly insist upon the necessity of dividing the tissues, layer by layer, holding aside the vessels and muscles by the blunt hooks, and entirely denuding before opening the trachea. I lay great stress upon the absolute *necessity* of proceeding very slowly. I have never seen an accident arise from too much slowness. Operate slowly, therefore, very slowly."

All bleeding should, if time allows, be controlled before the trachea is opened. The incision having been made in the tube, its edges should be held apart by means of a proper pair of forceps, and when the coughing has ceased and the mucus, blood and membrane, if any, has been removed, the canula should be slid between the blades of the forceps into position. Do not consider the use of the forceps, as described, an unimportant matter; it is a very weighty one, we assure you. On more than one occasion we have seen efforts made to insert the canula without their use and instead of its extremity entering the tracheal incision, even though guided by the finger, it has been pushed about into the cellular tissue in front, or on one or the other side of the trachea, and only after several efforts has it been placed *in situ*. Again, the accident referred to of pushing membrane before the entering canula can only be avoided by the use of the forceps, the blades of which are, of course, introduced closed and subsequently expanded, thus serving not only to guide the canula, but also to prevent its edge from scraping against a large portion of the tracheal wall during its introduction. We prefer a double silver canula, of appropriate size, with a fenestra in the external one, and moveable upon the plate to which the tapes are attached, so that it may more readily conform to the movements of the trachea incident to deglutition. After the operation the temperature of the room should be maintained at from seventy-five to eighty degrees Fahrenheit, the atmosphere should be kept moist by means of steam, and iodine should, in many cases at least, be used in the water from which the steam is generated in sufficient quantity as to be perceptible in the room to the sense of smell. It is best to lay over the tube several thicknesses of wet gauze, or a knit comforter, so as to sift the air before it passes to the lungs, and also to prevent the rapid drying of the mucus that is expectorated and tends to adhere to the orifice of the canula. Such has been our after treatment, employing, of course, such remedies as were indicated in individual cases in conjunction with as stimulating diet as the patient could stand, and we think our results will compare favorably with others.

Case I.—A boy, six years of age, at the House of Industry in the Five Points, had been ill several days with diphtheria. Suddenly the larynx became involved, and we were summoned. We reached the patient in the evening and found him comatose and presenting the usual manifestations of impending suffocation. Tracheotomy was at once decided upon. No anæsthetic was needed on account of the existing coma. Aided by Dr. St. Clair Smith and the resident physician, and by the wretched light furnished by two or three candles, we made the operation. The dissection was made very cautiously and considerable time was consumed, owing to the presence of a great number of veins. Indeed, the whole wound seemed filled with them, like a mass of earth worms. By careful dissection and free use of the director and handle of the knife, aided by the constant employment of the blunt hooks, the trachea was finally bared and opened. In lieu of the ordinary tracheal dilator, which was not at hand, we used a pair of ordinary dissecting forceps. They were introduced into the trachea, and then, by inserting the finger between the blades, they were separated to the desired extent and the tube readily slipped into place between them. Immediate relief from the threatening symptoms was at once secured. The patient had a comfortable night and regained consciousness. The next morning he sank and died, apparently from occlusion of the air passages below the point where the tube had been introduced. Efforts were made to charge the atmosphere of the room with steam and the fumes of iodine ; but this was very imperfectly accomplished.

Case II.—Lulu B., aged three and one-half years, was in the declining stage of whooping cough when diphtheria set in. With this she was ill two weeks, by which time the membranous deposit in the pharynx, mouth and nose had disappeared and she seemed convalescent. Suddenly a croupy cough developed on a Thursday. All means were employed, both local and systemic, without any relief. On Saturday we were called to see the patient and found her greatly distressed for air, croupy cough, commencing cyanosis, restlessness, retrocession of the soft parts about the chest during inspiration, and membrane could be detected upon the rima of the glottis and epiglottis, stridulous breathing, etc. A delay for a short time was advised. No relief having been experienced, and suffocation being imminent, ether was administered and tracheotomy performed. The operation was done slowly and carefully, and no difficulty was experienced. On opening the trachea the usual paroxysm of cough occurred, and with the blood and mucus there appeared at the wound a piece of membrane, which we removed with the forceps; it was almost an inch in length and half an inch in width. Nothing untoward happened, and in two weeks from the date of the operation the tube was removed. One week after the operation it was noticed that whenever milk was swallowed some of it would appear at the wound. This lasted a few days and then ceased. No cough was excited at such times. The temperature of the room was maintained at from 75 to 80 degrees and charged with steam.

Case III.—Was called by Dr. St. Clair Smith, to see a little girl about six years of age who was ill with diphtheritic croup. When seen there was abiding and progressive stenosis of the larynx, associated with the usual symptoms accompanying that condition and corresponding to what we have already described as timely for operating. Under ether tracheotomy was made in the same cautious manner as on the previous occasions. Nothing unusual happened during its performance, and complete relief was afforded by the insertion of the tube. Everything progressed favorably and it seemed as if a recovery would ensue. On the fourth day the neck became tumefied and red, with membranous deposit on the wound. The next day the tumefaction was very great, and the wounds and tissues in its immediate vicinity were sloughing. The sixth day she died of asthenia.

Case IV.—At the House of Industry a little boy was convalescing from typhoid fever. Without previous symptoms a croupy cough developed, and Drs. Joslyn and Smith regarded the case as one of diphtheritic croup, although no membrane was to be seen in the pharynx. The stenosis increased, and when we were called to the case cyanosis and coma were present, in conjunction with the usual manifestations. We decided on making tracheotomy, which was accomplished without accident. On the tenth day Dr. Beebe made a careful laryngoscopical examination and found only œdema of the larynx. This was slow in resolving, and it was eighteen days after the operation before the tube could be safely removed. Not an unfavorable symptom developed and recovery was perfect. No anæsthetic was employed.

Case V.—We were called by Dr. Joslyn to see a little boy about three years of age who was dying from laryngeal stenosis due to diphtheritic croup. By lamplight we made tracheotomy under ether. Nothing unusual was experienced and immediate relief followed the operation and the patient had a comfortable night. The next day the dyspnœa returned and in thirty-six hours after the operation the little fellow died of asphyxia from extension of the disease below the tube.

Case VI.—Was summoned by Dr. Buck to see a little girl, four years of age, in a tenement house, who was dying with diphtheritic croup. Tracheotomy was done under ether and by lamp light, being completed about 7 A. M. in the winter. Everything progressed satisfactorily until the evening of the next day, at which time we made our visit and found the small room crowded with the friends of the parents; the air, such as one finds in a tenement house, with the additional fragrance emanating from the breath and bodies of the assembled friends, who were watching the child in its writhings to obtain air. We reached the crib as quickly as possible and a glance was sufficient to show the cause of the dyspnœa. In spite of most careful explanations and cautions, the mother had neglected the tube and the orifice had become diminished to the size of a pin hole by the drying of mucus. We quickly removed the inner tube, the child drew one long free breath, and died—of neglect.

Case VII.—Again, at the House of Industry, a little delicate boy had laryngeal stenosis from diphtheritic croup. Tracheotomy was made in the afternoon, before sopor or marked depression had set in. He had a comfortable night and toward morning was left for awhile, how long I could never learn; but on the nurse's return she found him unconscious and with labored breathing. She examined the tube and found one end of a long lumbricoid worm projecting from the tube and what seemed to be the end of a similar worm projecting from the mouth. On drawing upon the extremity presenting at the tube that hanging from the mouth disappeared, and she drew from the tube a worm which I saw, and which measured some eight inches in length. The patient breathed easily after the obstruction was removed, but he never regained consciousness, and gradually sank and died of asthenia eighteen hours after the operation.

Case VIII.—Patient a little girl, five years of age, at the House of Industry. Membrane was visible about the epiglottis. When first seen by us she was semi-comatose, the face and hands markedly cyanotic and the breathing very labored. Ether was administered and tracheotomy performed. She came out of the soporous condition during the night, the operation having been done in the afternoon. Her temperature remained at 103 degrees for several days. On the second day the wound became very offensive and remained so for forty-eight hours, and then the odor gradually diminished and disappeared by the end of a week. Dr. Beebe examined the larynx on the fourteenth day and found only œdema, which by the eighteenth day had sufficiently disappeared to admit of the removal of the tube. The recovery was perfect and without an untoward symptom.

Case IX.—Was called by Drs. Blumenthal and Danforth to see a little girl who had developed croup during an attack of diphtheria of the fauces. The usual expedients had been employed. We advised delay and a further exhibition of remedies and local measures. In the afternoon, finding that the stenosis was increasing and strength failing, tracheotomy was performed successfully and with most perfect relief. The child did well for twenty hours, when evidences of extension of exudation below the tube became manifest, and in a few hours she died of asphyxia.

Case X.—The Drs. Burdick summoned us to see a case of diphtheritic croup following diphtheria. The patient, a boy about eight years of age, had had a severe attack of diphtheria, the membrane covering the tonsils, pharyngeal wall and reaching the buccal and nasal cavities. All this had gradually cleared off and the patient seemed convalescent. Suddenly a croupy cough set in, was speedily followed by dyspnœa and the usual symptoms of contraction of the laryngeal lumen. When we saw him we advised tracheotomy without delay, and it was done at once, with the happiest results, the patient making a most complete recovery without any complications. Only the moist atmosphere and elevated temperature were maintained. The tube was removed in ten days.

Case XI.—A lad, ten years of age, was taken with diphtheria, having contracted this disease from his oldest sister, who at the time was convalescent. The membrane involved the whole pharyngeal wall, tonsils, uvula, and part of the soft palate and extended into the nasal cavity. After ten days the membrane had entirely disappeared from the parts mentioned, and everything bid fair for recovery. At this time, on a Saturday, a croupy cough set in, and Dr. Lefferts was called to examine the larynx. He did so, and told us that he could see a little membrane in the larynx, with œdema; but he gave a favorable prognosis. The patient did quite well until early Monday morning, when there was a rapid increase of the dyspnœa, and cyanosis began, with an increase of the cough and gradual extension of the voice. Dr. L. was again called in consultation and arrived about nine o'clock, by which time the patient's condition was very critical. The doctor coincided with us that tracheotomy should be done and at once, though he did not hold out any hope of success, as he had never seen a similar case successful. Assisted by Drs. Dillow and Wilcox, we performed the operation with immediate relief to the urgent symptoms. Steam and iodine vapor were employed. That night he complained of pain in right chest in neighborhood of the nipple, and flaxseed poultices were applied, and toward morning a piece of membrane, one and three quarter inches in length by three-quarters of an inch in width, with ragged edges, tough and thick, was coughed into the tube and was quickly removed by the nurse. After this the pain in the chest ceased and no complications occurred, and in a week the tube was removed and recovery was complete.

These cases comprise all our experience in tracheotomy in the disease in question. Six deaths, five successes. As we have said, we think that two of the fatal cases should be eliminated from the list, as death resulted from obstruction in the tube due to carelessness, and had proper attention been given to the patients, the issue might have been different. One point we will mention, in conclusion, in reference to the prognosis after the operation: We have uniformly found that in all cases which have recovered there has been a free discharge of mucus through the tube, with the acts of coughing; and, on the other hand, in every fatal case, though the cough continued, there was very little expectoration; hence we regard a *dry* cough, after the first few hours, as an unfavorable sign.

Our cases also show, as far as they go, that the operation may be successful even after coma has set in, and also that the removal of the obstruction, if too long postponed, may fail to save life, even though air has free passage to the lungs.

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ORIFICIAL TREATMENT:

THE NEW METHOD OF CURING CHRONIC DISEASES.

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ORIFICIAL TREATMENT.

From the time of Hippocrates to the present day, no treatment, medical or surgical, elaborated and employed for the relief of chronic diseases, I believe is calculated to so profoundly affect the medical profession, and the community at large—none destined to become so universally popular, on account of its benign and far reaching effects—as the system of "Orificial Surgery," originally conceived and put into practice by Dr. E. H. Pratt. His views on the subject are outgrowths of an intelligent, unremitting study of chronic diseases.

Of what hue and form is this new claimant for public favor? Orificial philosophy asserts as one of its truths, that a vast majority of chronic diseases and the symptoms attending them, but present phases of reflex disorders. Orificial pathology embraces, comprehends and treats of morbid structural changes in the various channels and outlets of the body. Orificial surgery is the application of surgical measures to these channels and orifices. In chronic disorders, surface indications and subjective symptoms are many times misleading, and too often treated as idiopathic diseases. Usually the primal cause of chronic troubles may be found located somewhere within the recesses of the body. In other words, symptoms of many chronic diseases break forth in their fury, at points remote from where the real organic disease is located.

Physiological and anatomical studies in health, enforce the view that functions and organs of the human economy are interdependent and co-ordinate.

A study of the disorders of the human body amply establishes that disease is simply a modified form of health, called disease for convenience. Study is also establishing, and must establish, that where people locate many of their diseases no actual disease exists.

Is it not a duty, therefore, on the part of the medical profession, to enlighten the people upon the subject of reflexes, concerning which they know so little? The world moves in the departments of medicine and surgery, as well as in the arts and true sciences. New and more successful means of diagnosis must supplant those that have failed, or only partially aided us in the past. This new philosophy and treatment opens a boundless field for the painstaking student of medicine, and will serve as a beacon light to those who have hitherto been working bewildered and misguided—honestly, yet unsuccessfully, striving to meet those exigencies which the management of chronic disease imposes. Applied orificial treatment is a sovereign agency of relief, and its introduction to the profession, to the human race, marks the dawn of a new era in the history of the healing art. It is not a short lived panacea, but a necessity, absolute and indispensable, in a physician's warfare with chronic diseases.

The principle of reflex irritation is not new, but its application has been so limited that the good results, from the comparatively little attention given it, fall far short of what the promising future has in store. The continued nausea and vomiting of women in the early months of pregnancy is an illustration of reflex action. So is the fact that thoughts excite erotic emotions and congestions of the sexual apparatus in both sexes. Fright often causes involuntary passages from bladder or bowel. What is the significance of all this? Simply demonstrations of the fact that impressions, or irritations, received at one part of the system may, and do, show their effects wholly at others. This is the essence, the germ, of orificial philosophy. Not a function of a human being can be carried on without the aid of that silent yet potent agency, the nervous system. Should it become disturbed in its integrity, harmonious working of the economy is gone. The nervous system is the citadel of life. To re-invigorate it is a remewal of life; to impair it is to jeopardize life, or seriously to interfere with its healthful maintenance. Circulation is carried on by the vaso-motor system which is furnished by both ganglionic and cerebro-spinal nerve force. If from any cause the source of supply becomes interrupted, the results of inadequate nerve-control soon become apparent.

I am not able to explain the why and wherefore of that wonderful process called life. The causes of the modus operandi, I believe, are not yet altogether satisfactorily expounded. We know that an unseen wand is lifted at conception and the human functions begin their harmonious operations. The anatomist is charmed by a study of the delicately constructed nervous system, conscious of its perfect control and adjustment of every function pertaining to life: more fascinated, however, is the neuro-pathologist while studying the same apparatus where all is changed from health to disease, from harmony to discord.

Chronic diseases are prevalent everywhere the human race is found, and why is it that the average physician derives so little solace of mind, so little professional glory, from treating them? The anwer is, simply because in the past we have failed to unearth their causes, and not to recognize causes is to fail in applying measures for relief.

A more grateful class of people cannot be found than such as have been treated for, and cured of, painful chronic diseases. This orificial system, this new departure, completely upsets the views and teachings of the great medical savants of the present and past generations; but truth must supplant error, and advancement go on, though the field be strewn with wrecked opinions and exploded theories. Out of the vast arcana a respectable number of medical gentlemen are already bringing order, by touching chronic diseases as with a magic hand. Their results are marvelous, and astonishing. Cures are being wrought upon those who by common consent, had been consigned to homes for incurables. To this latter class it has been as a "balm in Gilead."

The recognition and adoption of orificial philosophy, and orificial treatment, will stop many professional blunders in diagnosis, and render unnecessary forms of treatment that are a source of dread to patients. In obedience to that law, "survival of the fittest," the old methods will have to fall into desuetude.

It will be proper to explain the manner in which reflex troubles are induced. Certain orifices of the body have circular muscles at their mouths to guard them. As for example, the rectum at its most dependent portion has one supplied and operated by a branch of the fourth sacral nerve. This nerve proceeds from the cerebro spinal system and is under the dominance of its possessor. An inch, however, above the anus is another guarding muscle, which gets its functional, its operative power, from the great sympathetic nerve. This nerve and its various ramifying branches work entirely independent of will power; moreover, all the higher endowed organs of animal life, the womb, ovaries, heart, lungs, liver, kidneys, stomach and ailmentary canal, act in obedience to its behests.

Now suppose by way of illustration, the rectum—which from its conformation—becomes a repository of small spiculæ of bone, or other sharp irritating substances, seeds and the like, not susceptible of digestion. These commodities at once set up an irritation, and such damage as they do, is invariably an exciting factor in the production of heat, and this in turn, of dryness; but another step and we have that formidable and distressing condition, constipation. With constipation well established, the contents of the rectum become large, dry and of such dense consistency as to tear the mucous membrane of the bowel when passed. Experiences of this kind a few times repeated are so dreaded by people from the pain which attends and follows it, that days and days are allowed to pass and no movement of the bowels. This is but a postponement of the evil day; meantime the troubles set up by the tearing of the mucous membrane at the narrowest part of the canal and damage to blood vessels become augmented and fixed in character.

These troubles finally assume form as fissures, piles, fistulæ, ulcers, pockets, and papillæ. Some of these are painfully sensitive, and cause much suffering, while others, situated above the distribution of the cerebro-spinal nerve, exist without the patient ever dreaming of their presence. An examination reveals a sphincter so tight as to make the introduction of a finger painful, and to preclude the possibility—without ether—of using a rectal speculum. How has this undue constriction of the anal sphincter been brought about? Simply by there having been too much irritation in the pile bearing inch of the rectum for it to do otherwise than close down in self defense. Undue pinching of the nerve filaments, which has been caused by the constant spasm in which the spincter was maintained, has so deprived the sympathetic nerve of its vitality, has so wasted its inherent governing and health sustaining power, that organs and functions, tissues and structures, anywhere and everywhere supplied by it, are deprived of their customary stimulus or operating force.

Constant irritating, fretting and nagging the nervous system ultimately throws it off its balance, destroys its equilibrium, produces passive congestions of any part unduly exercised; and when this stage is reached the disintegrating process of disease proper steps in, to rack with pain, and make miserable life's existence.

Various forms of rectal irritation prevail when the bowel maintains its habit of regular daily action, so that constipation is not by any means a necessary accompaniment of all difficulties in this locality. These troubles, however, through their pernicious influence in abridging nerve power, suffice to create an infinite variety of symptoms and conditions that detract from, and render impossible a legitimate standard of health.

I would admonish, therefore, those who would properly account for and successfully treat chronic maladies, to inspect, before reaching conclusions, every channel, cavity and orifice of the body; for be it understood, orificial work does not mean rectal work alone, but embraces in its scope the many localities which anatomical study plainly shows exist. I would emphasize the absolute necessity in orificial work of doing it with a completeness and precision carried to the limit of possibility. It will not do in a neurasthenic subject to cut out a pile tumor of prominence and leave a small pocket which to the uninitiated may seem to possess no significance; to do so would be to invite a continuance of some symptoms that previously existed.

Complete, thorough, all round work is indispensable to success. When you fancy you are to fail in a given case, go back and see if you did not only partially do your work. It is impossible to tell what functions or organs nerve-waste will not invade, impair and ultimately destroy. A normal circulation of the blood in all the arteries and veins, especially the capillaries, is indispensable to good health; this, and a diseased state of the channels of the body cannot co exist. To put it briefly, the various forms and countless numbers of chronic diseases the world over, I believe are but the result of nerve-waste, the cause of which is located somewhere in the outlets of the system. The wonderful fifth nerve, so highly endowed, so generous in distribution, becomes often the seat of a neuralgia, a tic-douloureux so excrutiatingly painful as to make life miserable. I have repeatedly found orificial troubles causing facial neuralgia, and speedily cured the same by Orificial Surgery. No organ supplied by the sympathetic or its branches enjoys an immunity from the troubles these morbid conditions establish.

As the study of the subject goes on, new facts are brought out, and the etiology of chronic dieeases is classified and unfolded. It should be understood that impressions evolved from one set of nerves may pass on through ganglia and brain to re appear as reflex phenomena in organs and structures furnished by another set of nerves entirely. So there may be in the hidden recesses of the body ample cause for diseases that appear upon its surface. I do not attempt to explain how the subtle power called nerve-force is manufactured or supplied. That it is a wonderful agent not susceptible of weight or visual examination, something akin to the mysterious electrical current, no one denies. We shall have to wait, I fancy, before finding out *all* about it. One thing is certain, the nervous system is as easily disadjusted as the electrical apparatus, and ought to be treated at least as considerately, so far as the care of it is concerned. A rap on the elbow, if the blow is struck just right, will be felt most at the extremity of the little finger. A temporary violence is done the nerve at the elbow, but the effect is apparent at the finger's end only. This is a simple yet clear illustration.

Some troubles of the ear produce a cough by irritating the throat, and remedial measures applied for the relief of such a cough are impotent unless the ear difficulty enters into the merits of the case as an etiological factor. A clot in the os uteri will induce nausea and vomiting; dislodging it, speedily stops the sickness. I have so relieved patients repeatedly. Such cases illustrate the principle, while further study and investigation of the subject will only amplify the list of cases, and confirm the correctness of the views advanced. More and more attention is being given by rhinologists and aurists to a study of the nasal as well as aural passages and their respective orifices, with a view to properly understanding the relation morbid states therein sustain to functional or organic troubles located in other parts of the system.

These fields are important ones for investigation, and a proper understanding of the troubles that might be termed indigenous to these localities enables the specialist to quickly diagnosticate and cure his cases. To my mind, of infinitely greater importance is a study of the uterine cavity, the rectum, prostate and urethra. A study of these cavities and channels will throw a flood of light over the subject of reflexes sufficient to make clear a pathway that has always been clouded by shadows, so obstructed by obstacles and barriers, as to puzzle and discourage the average practitioner. I believe a majority of diseases of the mind are directly traceable to uterine or prostatic disturbances. These are proverbially the cases that tax the doctor's skill, patience and endurance. He has wrestled with them and often found himself overmatched, and finally, after great vexation of spirit, has seen them pass into the hands of some other practitioner. An understanding of the new light now being thrown upon the subject of reflexes, will make many diagnoses an easy matter that before seemed beyond accomplishment. Troubles that were once hard to account for and still harder to cure—such as neuralgia, ovaralgia, nocturnal erotic dreams, despondency, melancholia, irritable bladder, loss of appetite, cough, asthma, sexual weakness, headache, dyspepsia, cold hands and feet, irregular action of the heart, as well as a host of other disorders, will now yield to treatment predicated on a correct diagnosis easily made. Why are there so many women with headaches, backaches, irregular menses, leucorrhœa, or neurasthenia in some form? A cause exists somewhere, and I usually find it in a diseased state of the last inch of the bowel, or a cicatrix in the cervix uteri, which unduly pinches a filament of the sympathetic nerve, or in pathological conditions of the vulva clitoris or contiguous structures, or possibly in the endometrium.

Hemorrhoids are more often responsible, so far as I am able to judge, for chronic disorders then any other cause. A morbid state of the endorectum, that is, its pile-bearing portion, cannot exist without disturbing some function. The sympathetic nerve operates the internal sphincter, a branch of it supplies the uterus, another the kidneys, another the heart, another the respiratory organs, another the stomach, and yet another the liver. Just as sure as there is a morbid pile-bearing inch, just so sure will trouble be reflected sooner or later, to some organ or function connected therewith through spinal cord or ganglia. Scarce any one, unless troubled with fissure or ulcer of rectum, feels pain, because the same, for anatomical reasons, is forwarded through the agency of the nervous system to remote organs, localities, or functions, and thus establishes a functional trouble which is made to stimulate independent or idiopathic disease. A very insignificant looking portion of diseased tissue in the rectum, or uterine cervix, will set up in distant or contiguous organs, violent symptoms and dangerous conditions.

By this it will be seen that reflex phenomena may completely overshadow exciting causes. I am sure too many reflex diseases are treated as idiopathic ones. In these cases, when it comes to treatment, the unsound trees are shorn of their foliage and the diseased roots left untouched. The rectum is particularly entitled to careful study and consideration; its anatomical characteristics demand it, for the reason of dissimilarity to other sections of the alimentary canal. The outlet is prone to take on various forms of difficulty that create an infinite variety of symptomatic phenomena. It is the countless array of symptoms, subjective and objective, the multiplicity of phases they assume, that makes the snbject of orificial pathology and treatment so deeply interesting. Any physician can account for a majority of the chronic diseases and derangements of the pelvic viscera by looking to contiguous organs for the primal point of disturbance. A contracted meatus not of special significance as an entity wreaks its dire consequences upon the prostate, bladder, kidneys, or other structures. If this be so, why not look for reflex troubles from a rectal sphincter that is in an unmitigated state of contraction? The operations of the sympathetic nerves are beyond the control of man. We can nurse and propitiate the cerebro-spinal, but the great ganglionic, by night and by day, works independent of us. I have seen many cases of prostatic trouble, irritability of the urinary bladder, of the uterus and ovaries. created solely by a fissure of the anus, or rectal papillæ, or pockets with inflamed and infiltrated edges. That pockets and papillæ are pathological can no longer be doubted.

How do I know this, and that my cases were diagnosticated correctly? Simply because I removed the diseased structures, and amply dilated unduly contracted orifices, and every patient got well. There is scarce any part of the system exempt from inroads through disturbances of the sympathetic. A slight sensation of discomfort in the rectum is scarcely noticed, but a horrible facial neuralgia, or a disfiguring and unsightly eczema, due solely to it, quickly calls the physician's services into requisition. So fruitful are rectal, prostatic and uterine troubles. in the production of nerve waste, I attribute a respectable number of all cases of insanity to them. I write carefully considering the import of the statement, and after having seen many cases caused by the influences referred to, and also after seeing them recover under proper orificial treatment. Nothing convinces patients and physicians like success. Argument against a system of treatment that cures has in it no strength.

To study this subject is to appreciate more and more its importance, to more fully substantiate its claims. Closely allied to this subject and in fact now inseparably connected with it, is the question of moral obligation, The physician is in duty bound to command all his resorces, to employ every means known to the diagnostician, that the nature of his patient's maladies may be known. To fail in this honest effort, is a culpable neglect of duty, and insures patients mental anguish, physical suffering, and many times death. In every chronic case of mental aberration, the physician, in looking for its causes, who fails to examine rectum, uterus and the genitalia in either sex, stops before entering the field so prolific in exciting causes.

Who can estimate the limit of functional or even organic derangements, that will ensue in a neurasthenic subject when, for weeks or months, nay more, for years, the anal sphincter has been in such a state of spasm as to continually choke those terminal nerve filaments of the sympathetic which are supplied to the lower end of the rectum? In such a case invariably some function, organ or organs, will sooner or later become so impaired as to visibly affect the standard of health. The heart may become a source of anxiety from its rapidity of action, or its antics of irregularity; brain fag assume a prominence sufficient to alarm both patient and friends; stomach drop so low in the scale of digestive power, as to become utterly unfit to present its contents to the duodenum for further action. A knowledge of orificial symptomatology enables us to know, that many cases of sexual neurasthenia have passed through all the stages to that of complete impotency, before the original source of nerve waste had been even dreamed of. Capillary circulation often becomes so handicapped that organs and tissues which depend upon it for sustenance, are famished and but half alive.

It will thus be seen that unduly contracted orifices and sphincters abnormally shut down, are liable to set up reflex difficulties in any part of the human economy. As a good capillary circulation is fundamental to perfect health, any and every influence that may impair its integrity should be sought out and removed.

Generically speaking, the profession recognizes some morbid conditions of the reproductive apparatus—more especially in women—as etiological factors in producing diseases of the mind. I think when the subject has received its complement of attention and investigation; when it shall have been fully written up as a labor of love on the part of those deeply absorbed in the task, the books will teem with interesting accounts of new-found exciting factors, and give, associated with it, rational and effectual treatment

In women who have experienced maternity and exhibited a decline in health after confinement—if such decline be attended by neuroses with mental aberration as an accompaniment—I think it safe to assume that the reproductive apparatus has sustained traumatic injury from disproportion in size of mother and child, or from employment of instrumental aid which was deemed necessary in delivery.

Many of these cases progress slowly, and often the health does not become seriously undermined for months or years. When such women are compelled to seek aid, they consult a gynæcologist, undergo digital and speculum examination, and frequently, because no rent is visible upon the outside of the cervix, and a cicatrix cannot be felt with the finger, they are not considered proper subjects for surgical treatment, and usually are consigned to one of palliatives and tonics.

I think a critical and exhaustive examination of these cases, aided by a dexterous use of the uterine sound, will show a cicatrix located at the internal os. Here the vascular supply is most generous, and at this point are centered those nerve filaments that play an important and vital part in the functions of the uterus. The cervix is an addendum, not being continuous with the uterus, but simply joined on to that structure. A recognition of this anatomical fact renders it more easy to understand the facility with which these tissues may be torn. A laceration at this point may, according to the agency which induces it, be much or little; may extend, as I have seen, from the internal os to a point as high as the orifices of the fallopian tubes. These lacerations do infinitely more damage than those extending downwards on account of the highly organized tissues they involve. A rent below only severs smaller vessels and less important nerves, besides the tissues below are often imperfectly closed, and a laceration that heals partially open or gaping, does little damage because no nerve filaments are closed down upon and pinched in the healing process, and thus left imbeded in a hard cicatrix. I believe many alarming and fatal cases of post-partum hemorrhage are due to lacerations at the internal os, the circular artery being divided along with other tissues.

Troubles of the mental zone frequently influence in a deleterious way many organs and functions of the body, and materially affect the disorders they acquire, so that we have mental influences affecting the physical system, and local physical conditions that affect the mental zone, constituting a sort of reciprocal aggravation.

The stomach of many a culprit executed has been found to contain food taken the day previous, showing the digestive power to have been held in check from over mental anxiety. An overwrought mind so affects the circulation of the brain, that sleep can not, will not come, without the aid of hypnotics.

We could go on illustrating indefinitely the principle of reflex action, but this article has already exceeded the boundary I had marked out for it.

A point or two more. The case of gleet that lingers and annoys the physician, when no strictures are present, I think is generally due to rectal troubles. I invite any physician who doubts this statement to verify its truth by examining cases for himself.

It is easy for any physician, who possesses a modicum of discriminating power, to differentiate between these cases and those due to direct lesions of the urethra.

Leucorrhœas, unattended by chronic endometritis or special morbid conditions of the uterine cervix, are more than likely instigated by a diseased state of the rectum, I do not believe a morbid state of the last inch of the bowel can be long maintained without the urethral or reproductive structures in either sex becoming affected. Nor do I doubt that diseased conditions of the reproductive channels and orifices will sooner or later exhibit their baneful effects by creating troubles in the rectal space.

I will here present some clinical cases that will perhaps be of interest.

CASE 1. Mr. B, aged 45 years, was troubled with constipation and excruciating headaches for several years; bowels unassisted would go a week without action, and headaches compelled him to take to his bed. An examination of the rectum revealed internal piles and two highly sensitive papillæ. I put him under ether, removed the morbid products in the rectum and dilated him thoroughly, so as to give the internal sphincter complete relaxation and rest. From about the third or fourth day after the operation his bowels voluntarily moved, and have done so ever since. His headaches were completely cured, and a year has elapsed without their return.

CASE. 2. Mr. F. sought my advice early in the spring of 1889. Had constipation; cold hands and feet, and a lumbago that rendered his life miserable. An examination revealed such a mass of internal and protruding piles that a removal of the whole pile-bearing inch became necessary. He made steady improvement after the operation, and for several months past reports himself absolutely well. I used the Eldridge "Cutting Clamp" in this case.

CASE. 3. Maj. F., 70 years old, consulted me on account of an irritable bladder, which necessitated his rising from four to six times a night to void his water, and rendered it impossible for him to retain the contents of the bladder for more than a couple of hours during the day. He had frequent attacks of passive congestion of the brain. A nasal and laryngeal catarrh were also great annoyances. Upon examining him, I found a sphincter so tight as hardly to admit a rectul speculum. He was etherized. Pockets, piles and inflamed papillæ were removed, followed by thorough stretching. I make the strange yet truthful statement that since the day of the operation he has had no sign of catarrh (which had prevailed for the previous fifteen years) nor a sign of irritability of the bladder. There has been no recurrence of cerebral congestion.

CASE 4. Mr. C., past 60 years of age, consulted me for headaches and a persistent dizziness that incapacitated him for business. As co related symptoms, he had dyspepsia, flatulency, gasy eructations from the stomach, loss of appetite, with hands and feet habitually cold. Upon examination I found nearly an inch of the lower end of the rectum turned out into the world. He was put under ether the next day, and I amputated the lower or protruding veins inside the mucus membrane, a modification of Dr. Whitehead's operation, and then stitched the membrane to the skin, when the anus presented a complete row of stitches around the opening. As soon as the patient emerged from sleep, due to ether, in reply to his wife who inquired how he was feeling, he said, "First rate," and added, "I can hear as well as ever I could with my left ear." It is proper to state here that he had been deaf in the ear referred to for eight years. This may seem an incredible statement, but it is simply truth. He got well speedily.

CASE 5. Mr. S. sought relief for chronic diarrhea, night sweats and gradual loss of flesh and strength. A rectal examination revealed a ragged and irritable mucous membrane extending to the upper border of the internal sphincter, with here and there a pocket intensely red. So much sensitiveness existed at the time of the examination that I was unable to make it as complete as I desired. The next day under an anæsthetic, I found, in addition to the revelations of the first inspection, two papillæ in a highly sensitive state. An operation which consisted in the entire removal of every morbid particle in the pile-bearing inch, which the eye could discover, attended by a thorough stretching of the sphincters, speedily cured this man; he gained something like twenty-five pounds of flesh in as many days.

Case 6. Miss P. had made the rounds of the physicians seeking relief for an obstinate constipation of ten years standing. Unaided by enemas, or laxatives, the bowels sulked seven or eight days at a time. An irritable rectum accounted for the trouble and an operation simple and devoid of danger soon restored daily movements of the bowels. This patient was cured and astonished, at the same time, she got no medicine.

Case 7. Mr. R., aged thirty years, summoned me to visit him at his home, as he was too ill to leave his bed. I found a physical wreck; a heart making one hundred and twenty pulsations per minute, cough and expectoration night and day. He was nervous, tremulous, apprehensive of approaching danger; watched me with the intensity of a detective; bedclothes were ringing wet from nightly perspiration. I found a diseased state of the bowel, an insufficient prepuce, and a urethral opening suitable for a child of three or four years. Under ether I treated the rectum surgically, and freely incised constricted structures, and then made an ample outlet for the flow of urine. This patient recovered without an untoward symptom and is now doing a prosperous business with health at par.

Case 8. Mrs S. had pain at a point corresponding with the location of the kidneys. A tumor about the size of a hickory nut was found imbedded in the posterior vaginal wall, and the last inch of the bowel endowed with two pockets. The tumor was enucleated, the bowel made smooth, and stretching of sphincter thoroughly done. Since a week after the operation, which was done about a year ago, she has had no return of her backache.

Case 9. Fannie S., aged 11 years, had obstinate constipation; from five to eight days frequently intervened between movements of the bowels. She had headache most of the time. looked pale, and badly nourished. I was astonished to find in one so young a bowel generously endowed with pockets and internal piles. The parts were bathed with mucus from the verge of the anus to the upper border of the internal sphincter. Under complete anæsthesia I removed piles and pockets, at the same time overcoming the sphincter by thorough dilatation. The little patient was speedily cured and is now well.

Case 10. Mr. S., forty years old, consulted me on account of headaches, impotency, indigestion, a sluggish state of the bowels, and a sallow hue of the skin. This patient I found was in a deplorable state of mind due to worry over his condition of sexual neurasthenia. His intense mental anxiety was a contribution to the common fund of troubles;

a rectum with several highly inflamed pockets, numerous internal piles, and a constricted foreskin, revealed the source of his troubles. Under ether, I performed circumcision, smoothed the whole pile-bearing inch of the rectum, and amply dilated its sphincters. This man at once set out on the road to recovery, and got well without a single drawback; the virile power being fully restored.

CASE 11. Mr. S., a weak anemic looking subject, consulted me on account of an intractible gleet. The use of an "Otis" stricture detector failed to show anything in the nature of a stricture; whereupon I inserted a rectal speculum; although the instrument was very gently insinuated the effect was so profound that syncope followed its introduction. A few days later I made an examination, employing ether. The space between the sphincters was a conglomerated mass of piles, pockets and sensitive papillæ. This man, only 25 years old, was a victim of an appalling nerve waste that had been several years sapping his vital force. The morbid products and diseased tissues of the rectum were removed and the sphincters thoroughly and completely overcome. He enjoyed a rapid convalescence, and the gleet disappeared like dew before the sun; even the passage of urethral sounds not being required. No medicine was administered. I should have noted that he had an epididymitis induced by heroic urethral injections, which was as persistent as the urethral discharge, but ten days after the operation upon the rectum, it had wholly disappeared.

CASE 12. Mr. J. S. came to me on account of sciatica which persisted as a sequel to rheumatism; medicines were of no avail. I finally examined him critically and found a small meatus, several pockets, and two or three internal piles. The meatus was freely incised, pockets and piles cut out, and dilatation carried to the extent of closing the handles of the rectal speculum; this being the only means I employ under ether for the purpose. This patient's sciatica left him promptly and never returned.

CASE 13. Mr. S., 69 years old, who lives in an adjoining State sent for me. I found him prostrate in bed with a tic-douloureux so bad that he could not converse above a whisper; the mechanical effects of talking were such a source of aggravation that he dreaded carrying on any conversation at all. This patient's trouble was of several years duration, and he had undergone an operation for the removal of two sections of nerves; one on the forehead and one some distance below the eye. No abatement of the trouble followed the operation. He was thin from the continued loss of flesh; his appetite might be termed an apology, with bowels habitually constipated and extremities all the time cold. I found a diseased rectum and an insufficient urethral opening. At two o'clock afternoon he was placed under ether, morbid tissues removed meatus enlarged and sphincters amply dilated. I paid him a visit in the evening on the way to the railroad station, he talked freely, using the muscles of his face without pain. The operation cured him of his painful neuralgia, and he has never had a return of it.

CASE 14 Mr. C., of Boston, had a persistent eczema of the anus associated with indigestion, flatulency, headache and wearisome lassitude. I suspected a rectum lesion, but was unable, on account of extreme sensitiveness, to make a speculum examination, so advised one under ether with preparations for an operation, should one be found necessary. At the examination made the next day an unusuaal amount of ether was necessary to produce complete anæsthesia. While dilating the sphincters sufficiently to explore the pile-bearing space, a small opening into an incomplete fistula was discovered; and while enlarging it enough for working purposes pus flowed to the extent of a tablespoonful or more. The cavity opened up possessed a pyogenic membrane, hence the constant discharge ; this was slight, however, and from being incorporated in fecal matter was unnoticed by the patient. The operation upon this patient consisted in completely overcoming the sphincter by thorough dilatation, cutting out some deep pockets and a few isolated piles. The pyogenic membrane was removed from the blind fistula by a thorough curetting, and the mouth of the diverticulum made co-extensive in diameter with its body; relaxation of the sphincter was maintained for several weeks by use of conical dilators, and the inside of the cavity occasionally swabbed out with a one to twenty solution of carbolic acid and water. This patient went to his home in Boston, two or three weeks after the operation which was about a year ago. He has since enjoyed a standard of health he had given up hopes of ever attaining, and is absolutely well.

CASE 15. Mrs. B., aged 27 years, bilious temperament, mother of one child six years of age; for the last four or five years had been gradually losing health and strength ; constant pain on top of head; tongue habitually coated, every morning rising with disagreeable condition of the mouth ; scarcely ever without sensations from a weak and complaining stsmach ; an ever-present backache ; extremities cold and constipation habitual. This woman was despondent, moody, with now and then suicidal tendencies. She had sustained painful domestic affliction, which affected her seriously as an auxiliary aggravation. The last inch of the rectum presented a perfect conglomeration of piles, pockets and papillæ, with the tissue between the sphincters in an unusual state of hyperæsthesia. Co-related to this was a large boggy uterus, a cervix markedly hypertrophied, and a cicatrix in the uterine cervix generous in size and dense in consistency Patient was placed under ether and the rectal work done, after which she was subjected to an operation for laceration of the cervix. In this operation I was obliged to go above the internal os to reach all the cicatricial tissues. The cervix just within the external os presented several cysts, which upon opening were found to contain a fluid mucilaginous in appearance. These were all enucleated and the cervix sutured with silver wire No. 27. On the ninth day union was found to be perfect throughout, and the stitches were removed. A speedy recovery followed, and the lady has since remained well—now something over eighteen months.

CASE 16. Miss H., blonde, 25 years old. For several years the menstrual epoch had been attended by pain so severe that she was compelled to take to her bed ; at each menstrual occurrence she was plied with bottles of hot water until exhaustion caused the uterine neck to dilate sufficiently for that relief which follows an adequate menstrual flow. In addition to dysmenorrhœa, she had a chronic abscess of seven or eight years standing, situated a little to the right of the spine and about two inches above the coccyx, which was in no way connected with the rectum. The last inch of the rectum was studded with piles and pockets; the internal sphincter was firmly shut down, patient showing as a result capillary circulation faulty in performance, a stomach working badly, cold hands and feet, very thin in flesh. I advised orificial treatment, which was assented to. A week after the next menstruation she was etherized. I first laid open the abscess freely, and with scissors and curette removed all the pyogenic membrane it contained; the cavity was then packed with carbolized lint, which was made to carry as much iodiform as it would hold. The uterine cervix was so completely shut down as to make the introduction of a sound a prolonged and tedious process. I finally succeeded, and then passed successfully the graded uterine conical sounds up to about number 17. After this the rectum was subjected to thorough work and completely relaxed by dilatation. The patient rallied well, although, as will be seen, a large amount of work was done. She began to improve at once, and went on to complete convalescence. Menses now occur without a twinge of pain.

CASE 17. Mr. H., aged 42 years, family history good, sought relief for acne rosaceæ. The eruption so disfigured the face that it was a constant source of mortification to him. He had tried many of the nostrums on sale and been faithful in the use of both internal and external remedies, getting no relief. The evidences of dyspepsia were present; coated tongue, headache, flatulency, with habitual constipation as an accompaniment of his other troubles. I found this patient with prostate somewhat enlarged and pronounced urethral hyperæsthesia in the prostatic portion of the canal. The rectal sphincter was tight from pockets and piles that were encircling the rectum just below the border of the internal 'sphincter. A short frænum prevented a normal erection of the penis. I thought these various sources of irritation sufficient to produce the gastric disturbances through a demoralized capillary circulation, and argued further that if capable of doing this, why not responsible through weakened nervous energy, for the morbid nutrition as expressed in the face eruptions? As this patient had been something of an epicure, I restricted him in his diet; this, together with thorough orificial work, so improved the capillary circulation that a change speedily took place in the nutrition of the skin of the face, and a few weeks only were necessary for him to get entirely well. Several months have elapsed, and there has been no recurrence of his troubles.

CASE 18. Mrs. Blank, 50 years of age, good antecedents. For the past seven years, has not been free from muscular rheumatism. Every climatic change visibly affected her condition and she could foretell them with almost barometric correctness. The shoulders and arms were favorite localities for her troubles. She had tried medicaments internally and externally, used electrical treatment, had massage, but got no benefit save of a slightly palliative character. Associated with her rheumatic difficulty was a condition of the eyes which made them extremely susceptible to light. She always turned her back upon the gas light in the evening, and during bright days wore smoked eye glasses. She had little or no appetite, was petulant and irritable, and handled a high-strung nervous system by constantly trying to be mistress of herself I found the rectum to contain several large internal piles, and located between them several highly inflamed pockets. She was etherized and the piles clamped by an instrument which I have devised for the purpose, and all the tissues clamped removed so as to leave, after the excision of the pockets, a smooth surface throughout the pile-bearing inch. The hemorrhage was insignificant, ceasing entirely after thorough dilatation pushed gradually to the point of closing the speculum handles. This patient at once commenced to improve and has not stopped doing so yet. She was operated upon only a few weeks since, but such an uninterrupted gain as she has experienced means a cure in its fullest sense. The eye trouble and rheumatism gave way before a full free flushing of the capillaries and because of an all round improvement in nutrition.

CASE 19. Mr. P., of New York, 50 years old, consulted me for sick headaches and numbness of arms and legs. His bowels were sluggish, and he now and again prodded them with Hunyadi Water. A diseased pile-bearing inch, a tight foreskin and an over sensitive prostatic urethra told the source of his woes. I put him under an anæsthetic and did thorough orificial work. Something like a year has elapsed since he was operated upon. But a few days since he came into my office and reported himself at par.

CASE 20. Mrs C., aged 28 years, had painful menstruation, eczema of the face and back of neck that caused her to forego an appearance in society. She became moody and taciturn. I found a rectal sphincter closed down with all possible force, and a cervix uteri in the same fix. I amply dilated both and made the bowel (ragged from pockets and papillæ) smooth. Her eczema and dysmenorrhœa left her, and along with them her taciturn state of mind.

March, 1890. 70 STATE STREET, CHICAGO.

OPERATIONS
ON THE
INTESTINES.

13

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BY

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Cholecysto-Enterostomy—
Gall-Bladder and Intestinal Anastomosis
Murphy's Button.

H.-K. Pub. Co., K. C.

Operations on the Intestines.

BY WILLIAM DAVIS FOSTER, M.D.

Professor of Surgery in the
Kansas City Homeopathic Medical College, Kansas City, Mo.

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WOUNDS of the abdominal viscera are frequent and dangerous. Death results chiefly from shock, from hemorrhage, and from peritonitis. In the Medical and Surgical History of the War of the Rebellion, 2d Surgical Volume, page 201, it is stated that of the aggregate of wounds received in battle, between 3 and 4%, (3.8%) were wounds of the belly: about one-tenth of those slain in battle perished from injuries of the abdomen; that the mortality of wounds of the intestines (Loc. Cit. page 202) is 80.3%. Statistics of modern European wars show a mortality from intestinal wounds of 75.1%. The data here found is the most trustworthy known to us.

Up to a very late period intestinal wounds were looked upon as necessarily fatal; surgeons, civil as well as military, made little or no attempt to repair the injury. At the present, "all over the world investigators are trying to solve the many perplexing problems that accident and disease of the gastro-intestinal tract present to them for consideration." In general at this day, in the hands of the best operators, success is indifferent in procedures to repair these injuries—the mortality rate continues very high. Failures are ascribed to many different causes. One reports that, "the suture was imperfectly applied." Another, "the induced invagination increased after the operation, until complete obstruction was produced; openings in the bone plates and discs were not in apposition; the ends of the bone plates caused pressure, atrophy and perforation; the catgut ligatures were too rapidly absorbed; lastly, and with appalling frequency, prolonged operation produced fatal shock" (Murphy). Many other causes of failure are noted by different contributors on this subject.

In all abdominal operations an anesthetic is imperative. The instruments required are various kinds of knives, a grooved director, varied curved scissors, intestinal clamps, hemostatic forceps, needles, sutures, and drainage tubes. The opening of the abdomen by incision is no longer a novelty. Laparotomy is now so frequently practiced, and the literature on the subject is so fresh and ornate, that I will not presume to dwell here. One remark perhaps may not be irrelevant. The classical instruction to make the incision in the median line is now obsolete, for two reasons: First, it is impracticable and based on erroneous anatomical grounds. If any surgeon thinks he can cut down canonically on the linea alba, let him try, and fail. Second, the white line is non-vascular, therefore when this aponeurosis is divided the subsequent union is delicate, easily broken down, and is indeed the prolific cause of post-laparotomy hernia. For these reasons it is wise to let the scalpel stray into the region of the recti muscles; this tissue when subsequently brought into apposition by appropriate sutures will unite into a sound, firm, and durably resisting wall.

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*Read before the Kansas State Homeopathic Medical Society.

After the intestinal wound or disease is thus exposed, the surgeon is confronted with the question of preponderating import: "How shall the wound be closed, or the disease be removed? What kind of suture is the best, and what disposition shall be made of the gut after closure of the wound?" These questions are discussed in some detail very ably by Greig Smith (Abdominal Surgery, London; J. and A. Churchill, third edition, P. 479 Et. Seq). It is here stated that Bishop in a valuable paper on Enteroraphy published in the *Medical Chronicle*, September, 1885, has collected no fewer than thirty-three (33) different methods of suture, some fantastic and some obsolete. Let us consider this: The essentials of an intestinal suture may fairly be claimed to be: First—It shall secure and keep up perfect closure of the wound through its whole extent. The slightest imperfection in apposition will permit of extravasation of intestinal contents; every stitch, therefore, must be perfect. Second—It shall have a known and durable period of existence in the tissues. Sutures that are not absolutely pure and unirritating will cause suppuration, as will tying them too tightly. Certain forms of catgut, although durable enough, are not very pliable, or very smooth; unprepared gut is liable to be too speedily absorbed. Fine braided silk, properly prepared, is admitted to be the very best suture material for divided intestines. Third—No suture passing through the peritoneum must penetrate the mucous membrane.

This would be practically to insert a seton to be followed by a fistula between the cavity of the gut and the peritoneum. A suture involving the mucous membrane should always be tied on the inside of the gut; if it suppurates, the pus passes into the lumen of the gut where it is harmless. Fourth—An intestinal suture should be capable of being rapidly inserted. Several varieties of sutures fairly satisfy these requisites. (Greig Smith Loc. Cit.). The most useful of these are Dupuytren's continuous; that of Appolito, Lembert's; Czerny's, Gusenbauer's, or combinations of two or more of these.

After the suture is applied another very grave problem is presented, to-wit: What disposition is to be made of the sutured gut? Three methods are available: First—It may be returned into the abdominal cavity, the abdominal wound being closed over in the usual way. Second—The bowel carefully protected may be left outside for a few hours till adhesive inflammation has sealed up the lines of incision. The sutures in the parietes are placed in position, but not tied till the bowel is returned. Schede suggested this plan, but the risks of distension of the extruded bowel, and of the extrusion of more bowel are so great, that it has not generally been adopted. Third—The sutured bowel is returned, and fixed by a stitch or two to the parietal peritoneum. The abdominal wound is left open at the point of fixation, but closed above and below. A good many cases which have recovered have done so after feces had burrowed an opening through the closed parietal wound; and some have died apparently because free exit was not given to extravasated intestinal contents. There is no strong objection to this plan; if there is any doubt as to the perfection of the suturing, it ought to be followed.

What circumstances in addition to wounds and injuries will render operative interference necessary? These are many and varied. Cancer of the pylorus, all kinds of intestinal obstructions including invagination, stenosis of the cystic, hepatic or common duct, tumors, one and all may render surgical interference desirable.

I have recently read a monograph, sent me by the author, entitled "Original Research in Abdominal Surgery, Ideal Approximation of Abdominal Viscera without Suture," by J. B. Murphy, M.D., Chicago.

The author formulates the questions at issue thus: "What are the best means and methods of producing agglutination of surfaces and preventing subsequent contraction at the point of adhesion?"

"If means can be devised: First—To hold the surfaces in contact. Second—While in contact, to produce a speedy and permanent adhesion of the surfaces. Third—To keep an opening sufficiently large for the free passage of intestinal contents. Fourth—To produce as a result a cicatrix that will not contract to any great extent, and by the contraction produce complete or partial obstruction, we will have overcome the great barriers that still remain between us and ideal success in intestinal surgery. To overcome these obstacles, I have devised a mechanical means to dispense with the need of sutures, the necessity of invagination, the possibility of non-apposition, the danger of sloughing through the discs, the too rapid digestion of the catgut, the almost insurmountable difficulties of the technique of operation, the prolonged and fatal exposure of the abdominal contents, and the protracted anesthesia. This is known as the anastomosis button."

Then follows a description of the button, with several cuts, which are necessary to a correct understanding of the device. The author then proceeds to review the history of cholecysto-enterostomy, describes the method of inserting his button (with illustrative cuts) and quotes experiments made on dogs.

Three cases with results are also reported. Operations for gastro-enterostomy, pylorectomy, end-to-end approximation of intestines, excision of cecum with ileo-colotomy, in which the button was used, are appended. The author claims that these operations and the technique are so simple as to be freely available by the general practitioner.

This operation, cholecysto-enterostomy with Murphy's Button, I have made twice. The report of the case follows:

Mrs. A. M. S., æt. 58, Girard, Kas., native of Pennsylvania, small, German extraction.

History.—This lady came to the Homeopathic Hospital in September, 1891, complaining of general exhaustion, piles, womb and ovarian troubles.

September 21, 1891. I made a Whitehead operation on the rectum.

October 12. I made Emmet's operation for lacerated cervix, putting three wires on each side.

November 7. I made Goodell's operation for lacerated perineum, using five wire sutures—many catgut.

December 7. Returned home, apparently well.

July 18, 1892. Mrs. S. came back to All Saints' Hospital, suffering from ovarian and liver diseases.

July 19. Double oöphorectomy, both ovaries proved to be cystic. The gall bladder found to be very large. Recovery without any circumstances of interest.

November 23. Cholecystotomy, by tapping and emptying the cyst, and then suturing to margins of wound. The bladder contained more than one pint of fluid, consisting of mucus and bile; the gall stones removed weighed about six drams, and the nurse counted 626 large enough to pick up with the fingers, besides many small ones not counted.

The specimen of calculi may be seen in the museum at the college. The fistula was closed at this time by several silver wire sutures. At the first dressing, however, it was found that the wires tore out, the wound gaped, and cystic contents were freely poured out on the abdominal surface. The fistula remains open.

February 15, 1893. I made a cholecysto-enterostomy, inserting the button according to Murphy's directions, and closed the fistula with many wire sutures. In consequence of the extensive adhesions and the changed intestinal topography the anastomosis, evidently, was in the colon. The button fell into the cyst and the external cystic fistula, not having closed, the button was fished out through this opening. The anastomosis soon closed and the contents of the gall bladder continued to escape through the abdominal fistula, as before the anastomosis was made.

April 28. I again inserted the button; this time making sure that the approximation is with the duodenum. No attempt was made at this time to close the fistula.

August 13, 1893. The record of this case may be appropriately and with much satisfaction completed by adding that the external fistula is now closed; the anastomosis between the gall cyst and the duodenum free, the biliary secretion being duly discharged through the intestines. At the last examination, made August 1, the button was found in the gall bladder, where it doubtless still remains. Its presence there does not appear to produce any disturbance whatever.

14

Clinical Contribution to the Surgery of the Appendix Vermiformis

Right Inguinal Hernia

Operation—Recovery

BY

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HUDSON-KIMBERLY PUB. CO. K. C.

[Reprint from MEDICAL ARENA.]

CLINICAL CONTRIBUTION TO THE SURGERY OF THE APPENDIX VERMIFORMIS—RIGHT INGUINAL HERNIA—OPERATION—RECOVERY.

BY WM. DAVIS FOSTER, M.D.,
KANSAS CITY, MO.

MISS BELLE R., aet. 30, native of Great Britain. History of undisturbed good health. Patient states that she has an enlargement in the right inguinal region, which has been gradually increasing in size, and is now as large as a goose egg. Recently the growth has been more rapid, and at the instigation of friends, who fear trouble from it, she now seeks advice. When first discovered, about two years ago, the neoplasm was of the size of a plum. There has never been in or about the tumor any pain, soreness, or discomfort of any sort. The stools have been and continue to be normal, without pain, and regular; the menses are normal.

Examination reveals a fluctuating tumor over inguinal region, freely movable; not sensitive to pressure; could not be returned to abdominal cavity by manipulation and does not diminish in size upon lying down, nor increase upon standing.

Operation.—May 17, 1894, under full anesthesia at Scarritt Hospital, assisted by Drs. J. H. Holland and W. L. Ray, the operative field having been properly prepared, the operation was commenced by an incision in the direction of the long diameter of the tumor and directly over it, about two inches in length, through the integument and fascia; the tumor was separated from its attachments down to its origin or neck, which, after careful dissection, was found to pass into the abdominal rings and enter the abdominal cavity. Careful but firm traction having failed to loosen the deeper attachments of the tumor, the abdomen was freely opened, whereupon the tumor was discovered to be closely adherent to the remains (about three-fourths of an inch in length) of the appendix vermiformis. This part of the appendix appeared to be of normal character. A stout silk ligature was applied around the appendix close to the cecum, and the tumor cut away about one-fourth of an inch beyond the ligature and the entire mass removed. The stump was touched freely with pure carbolic acid, the end inverted the serous surfaces carefully coaptated with fine cat-gut sutures and dropped into the abdominal cavity, the redundant peritoneum composing the sac was tied and cut away, the abdominal cavity thoroughly irrigated with hot water, a glass drainage-tube inserted, the peritoneum closed with fine silkworm-gut, the rings were closed with a separate row of sutures of the same material, and the overlying tissues with still another row of fine silver wire sutures—one on each side of the drainage-tube being left slack to facilitate the removal of the tube. The usual dressings were then applied. At the end of twenty-four hours the tube was found to be dry and was removed. A strip of iodoform gauze was inserted into the cavity formerly occupied by the tube, which, on the following day, was removed, the two wires twisted down tight and dressings reapplied. The wires were removed on the ninth day, union being sound in the entire line of incision.

Comments.—The convalescence was so uneventful as to attract no special notice. Patient left the hospital at the end of twenty-eight days. The temperature did not at any time reach 100° Fahrenheit; no increase in pulse rate. There was no nausea or vomiting from chloroform.

This tumor, which proved to be a hernia, was composed of that part of the appendix which had prolapsed through the abdominal rings, and contained in its dilated cavity about two ounces of bloody serum. The sac contained no intestine, no mesentery, no omentum—nothing, indeed, but the hypertrophied and dilated appendix vermiformis. The case appears to the writer to be so novel that it is thought worthy of permanent record. So far as examined, the surgical archives contain no reports of cases of similar character. The specimen is in the Homeopathic Medical College museum.

13

History of Trephining.

FRACTURE OF THE INNER TABLE OF THE CRANIUM—DEPRESSED BONE—COMPRESSION OF THE BRAIN—A CASE—STRABISMUS—RECOVERY.

BY WILLIAM D. [illegible] FOSTER, M. D.

KANSAS CITY, MO.

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HISTORY OF TREPHINING.

FRACTURE OF THE INNER TABLE OF THE CRANIUM.—DEPRESSED BONE.—COMPRESSION OF THE BRAIN.—HISTORY OF TREPHINING.—A CASE.—STRABISMUS.—RECOVERY.

BY WM. D. FOSTER, M. D., Kansas City, Mo.

"No injury to the head is too slight to be despised, or too grave to be despaired of."—HIPPOCRATES.

The treatment of fractures of the skull has been justly held to involve many difficulties. From its exposed position, the head is liable to frequent and varied accidents; from the importance of its contents—the brain, injuries to this part present an interesting study to the surgeon, possessing, usually, marked elements of danger to the individual. The surgeon, brought face to face with the grave and often complicated problems thus unfolded must determine and act with celerity. He has little time to reflect, and none to consult authorities. He must be prepared for the emergency. With the purpose, therefore, of elucidating some of the latest views and soundest principles which prevail relative to the treatment of these injuries, we will interrogate somewhat in detail, the surgical records of the past as well as those of the most distinguished authors of the present, and inquire into the results of the operation of trephining.

The student is bewildered at the outset by the diversity of notions encountered. Were the beginner, the tyro, to govern his operative steps by the voice of authority, to whose dictum would he give ear? In surgery it is not always wise to be governed by the preponderence of testimony. This inquiry is not only interesting from a surgical stand-point, but will develop, incidentally, the multifarious and conflicting doctrines which have gained prominence in different countries, and at widely remote periods. The practical fact in regard to the operation of trephining is: When is it clearly warrantable?

Operation of Trephining.

The circumstances which require this operation are:

1. Compound fracture with depression of bone, with or without symptoms of compression.
2. Simple fracture with depression and symptoms of compression, after a fair trial of ordinary means.
3. Punctured fractures, no matter what may be the condition of the brain.
4. Extravasation of blood between the skull and dura mater, or in the arachnoid sac on the cerebral hemispheres.
5. The existence of pus in the same situations.
6. Foreign bodies.
7. Epilepsy and other secondary effects.*

Trephining the cranium should be regarded as an operation always fraught with danger,† and only to be performed from absolute necessity.‡

The following general rules should guide us in deciding the question:§

1. In diffused injuries to the cranium and its contents all operative interference is unjustifiable.
2. In simple fractures, with or without depression, operative interference is only called for when marked and persistent symptoms of local compression of the brain exist.
3. In compound comminuted fractures, with or without brain symptoms, the depressed bones should be elevated and the fragments removed, with the object of taking away known sources of irritation to the membranes—a common cause of encephalitis.
4. In all local cases of traumatism of the cranium, of fractures or other injury, followed by clear

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* Gross, System of Surgery, Vol. 2, p. 174. Edition 1877.
† Erichsen, Science of Art of Surgery, 1860.
‡ Ranney, Practical Medical Anatomy, 1882.
§ Bryant, Practice of Surgery, 1872.

clinical evidence of local inflammation of the bone, and persistent symptoms of brain irritation or subosteal suppuration, the operation should be undertaken.

There are certain suggestions* which are safe to follow in cases where the propriety of surgical relief is called in question:

1. If the injury be situated on the motor area of the cortex, the presence of anæsthesia in combination with motor hemiplegia, is a contraindication to attempts at relief.
2. If the sensory region of the cortex be involved and paralysis or convulsive movements occur, an operation is contraindicated.
3. The occurrence of paralysis on the same side as that upon which the injury was received, is always a contraindication to any surgical proceedure at the seat of injury, since it indicates some lesion of the opposite side, probably dependent upon transmitted force (*contre coup*).
4. The completeness of the paralysis may be often taken as a guide to the amount of injury done to the cerebrum; if the paralysis be very profound, the chance of success from the trephining is extremely small.
5. The appearance of paralysis of any of the special nerves of the cranium and vomiting may be regarded as contraindications to surgical interference.
6. If the region over the fissure of Rolando be subjected to apparent injury, and the symptoms of some of the special types of monoplægia appear, successful trephining may be reasonably expected.

The presence of anæsthesia would, however, still be a strong contraindication to such a step. It must be also remembered that the motor paralysis of whatever kind must be confined to the side of the body opposite to the seat of injury, if benefit is to be expected.

The foregoing rules and suggestions are deserving of the most pointed condemnation. They are neither theoretically plausible, nor clinically correct, and clearly calculated to mislead. A rigid adherence thereto would have deterred any surgeon from undertaking the operation reported further on; nay, gauged thereby, it would have been plainly unjustifiable. Further, were these propositions sound, the availability of the trephine would be at an end; for after a careful examination of the details of every well authenticated case of trephining to be found recorded in the annals of surgery—both civil and military—no single case falls entirely within their scope. Confronted with such advice, and acting thereon, the surgeon would let his patient with a broken head perish without attempting any operative step for his relief. Such refinements are, and have been always, the cause of great mischief, and are undoubtedly responsible for much of the bad surgery in all ages.

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*Ranney, loc. sit.

The trephine should not be applied to any of the following points: the frontal sinus, the anterior inferior angle of the parietal bone; the course of the longitudinal sinus, the occipital protuberance and the different sutures.*

The accomplished Sir Wm. Fergusson† assures us that "the trepan may be applied to any part of the side or upper portion of the cranium," that he imagines the meningeal artery and sinuses may be avoided, giving directions how to proceed in case the former is wounded.

It is a nice point to determine whether in a given case the patient is laboring under concussion or compression, and to which condition the symptoms are due. In practice it is not uncommon to find these states co-exist. The appended differential epitome‡ will aid in reaching a just conclusion:

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* Gross, Ibid, p. 175.
† Practical Surgery, p 471. Philadelphia, 1845.
‡ Gross, Ibid. p. 181-2.

CONCLUSION.	COMPRESSION.
1. The symptoms are immediate, coming on instantly after the infliction of the injury.	1. An interval of a few minutes, or even of a quarter of an hour, sometimes elapses, especially if the compression is caused by extravesation of blood.
2. The patient is able to answer questions with difficulty, and usually only in monosyllables, as yes or no.	2. The power of speech is totally abolished; we may hollow in the patient's ear as loudly as possible, and yet there will be no response.
3. Special sensation is still going on, the patient being able to hear, see, smell, taste and feel.	3. Special sensation is destroyed.
4. The respiration is feeble, inperfect and noiseless.	4. The respiration is slow; labored, stertorous, and performed with a peculiar sound.
5. The pulse is weak, tremulous, intermittent and unnaturally frequent.	5. The pulse is labored, soft, irregular, and unnaturally slow, often beating not more than fifty, fifty-five or sixty in a minute.
6. There is nausea and sometimes vomiting.	6. The stomach is quiet and insensible to ordinary impressions, even emetics.
7. The bowels are relaxed, and there are sometimes involuntary evacuations.	7. The bowels are torpid, and are with difficulty excited by the action of purgatives.
8. The power of deglutition is impaired, but not abolished.	8. Deglutition is impossible, and sometimes does not return for several days.
9. The bladder retains the power of expelling its contents; but sometimes, owing to the weakness of its sphincter, the water flows off involuntarily.	9. The bladder is paralyzed, and therefore incapable of relieving itself, the surgeon being obliged to use the catheter.
10. The voluntary muscles, although much weakened are still able to contract, there being no paralysis.	10. There is always paralysis on one side of the body, generally opposite to that of the compressing cause.
11. The pupils are usually contracted, and somewhat sensitive to light: the lids are open and movable.	11. The pupils are widely dilated, and unaffected by light, the lids being closed and immovable.
12. In concussion the mind is in a state of abeyance: it is weak and confused, not abolished.	12. In compression the patient is comatose, and the mind is temporarily abolished.

That the intricacy of diagnosis may be still more distinctly emphasized, it has been pertinently observed that "all these symptoms, conditions and causes have been made by many authors to appear very distinct in so far as language and printing are concerned, but in practice the difficulties in diagnosis are often so great that even the most experienced surgeon will occasionally be at fault; the coexistence of concussion and compression has been especially noticed by practical men, as also the impossibility of distinguishing which of these conditions is most urgent, and there are few indeed who can congratulate themselves on their invariable accuracy in the investigation of such cases.* The same eminent surgeon has further declared that in concussion, unless the injury be immediately fatal, nature seems in a manner to struggle against such an event, the patient recovers to a certain extent, and then perhaps inflammation may run its course, or possibly, the rally may be complete. Not so, however, in compression: this condition may not evince itself for several hours, days or weeks after the injury. Sometimes, in injury of the head, a person seems at first to suffer from concussion; in the course of a few minutes, half an hour or more, he, as it were, recovers from the shock, but for a brief time only. Hegradually becomes insensible again, and all the symptoms of compression become more or less distinct. Such has been the history of some instances when the middle meningeal artery has been torn.

The treatment of depression must depend on circumstances. If the symptoms are evidently due to a depressed fracture of the cranium, recourse should at once be had to the operation of trephining. Where the compression results from effusion of blood within the membranes, the rule is laid down that if the symptoms are such as to show that the immediate dangers from compression are so great as to overbalance those arising from the meningitis which the puncture may induce, the membranes should be incised and the blood evacuated.† If a person had received a blow on the temple, and if from the symptoms I suspected effusion of blood from the meningeal artery, I should not hesitate to perforate the cranium with a trephine, over the supposed collection; and in the event of compression coming on in the course of a number of days, and when suppuration might be suspected, the same method might be adopted.*

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* Fergusson, loc. sit.
† Smith, H. H., Practice of Surgery, p. 299, Ed. 1856.

The treatment of depressed fractures, when combined with symptoms of compression, will consist in antiphlogistic resources and in the performance of the operation of trephining, with the view of elevating the depressed fragments and thus relieving the compression.†

In order to determine those parts of the brain which underlie definite points marked upon the exterior of the skull, the following engraving is suggestive. The line described by the base of the figure is known as the Alveolo—Condyloid Plane of Broca: ‡

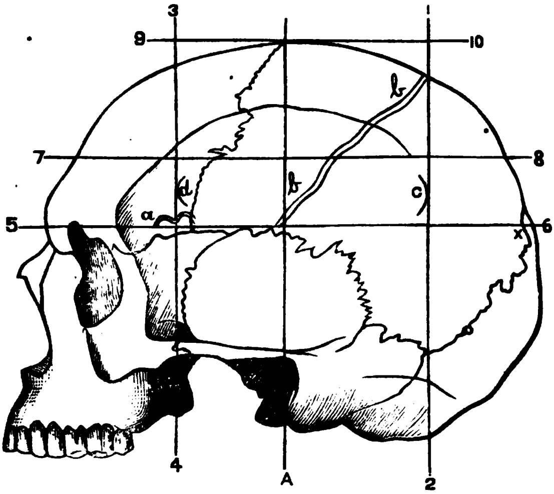

FIG. 1.

Outline of skull resting upon the Alveola-Condyloid Plane of Broca (modified).

* Ferguson, Ibid, p. 469.
† Smith, Ibid, p. 336.
‡ Ranney, Ibid.

Vertical line A, or auriculo-bregmatic line 9-10, drawn parallel to the plane of Broca. Upon this line, at a distance of 45 m.m., posterior to the bregma or vertical line 1-2, will pass through the upper (inner) end of the fissure of Rolando, b, b, and through the posterior extremity of the thalamus opticus (c). A third vertical line 3-4, drawn at 30 m.m., forward of the bregma, will pass through the fold of the third frontal gyrus (a), and through the head of the nucieus caudatus (d). The horizontal line 7-8, at 45 m.m. below the bregma (scalp) indicates the upper limit of the central ganglia. The third horizontal line 5-6, passing through the external angular process of the frontal bone and the occipito-parietal junction, approximately indicates the course of the fissure of Sylvius, and serves for measurements. At 18 or 20 m.m. behind the external angular process on this line, is the speech center of Broca; 5 to 8 m.m. behind the intersection of 3-4 and 5-6, is the beginning of the fissure of Sylvius; and at 28 or 30 m.m. behind this intersection, is the lower end of the fissure of Rolando, b, b, placed a little too far back in the cut. At x (near 6), near the medium line, is the location of the occipito-parietal fissure.

Some of the preplexities of diagnosis and treatment are further illustrated in the following

CASE.

On the 24th of August, 1882, at four o'clock P. M., George F., æt. 15, was thrown from his horse. The animal became frightened and ran; the lad's foot hung in the stirrup, whereby he was dragged a considerable distance. In this predicament he was presumably struck on the head by the horse's shoe; the saddle girth finally broke and thus released the boy from his peril. He was carried home in a partially unconscious condition. Shortly afterwards vomiting set in and continued at intervals throughout the night.

Some hours subsequently he apparently fully recovered consciousness and complained bitterly of pain in his head. The following day, Friday, he appeared conscious when aroused; took some nourishment; he was stupid and slept a good deal. Friday night he spent badly; his head was hot; he was restless and could only sleep a few minutes at a time; frequently got up and changed from one bed to another; he grew steadily and gradually worse, when, at five o'clock Saturday morning, August 26th—thirty-seven hours after the receipt of the injury—he had a convulsion, and became again profoundly unconscious. The convulsions recurred at intervals of thirty or forty minutes during the day. He took Belladonna, and had inhalations of Chloroform during the paroxysms. He became speedily quiet under the anæsthetic.

At four P. M., Saturday—forty-eight hours after the accident occurred—I was requested to see this patient in consultatian with Dr. Peter Baker, who had the case in charge. At that time I learned the foregoing history and found the boy in the condition stated.

Examination revealed contusion and swelling over the left parietal region; contusion and laceration of the skin on left side of the spinal column from the shoulder to the hip; unconsciousness profound; pulse slow and very full; respiration retarded and partly stertorous. Fracture and depression of the left parietal bone, with compression of the brain diagnosed. Prognosis unfavorable. It is apparent that the vital powers are becoming rapidly exhausted; that no *medicinal measures* are adequate to lift him out of his lethargy; that the nerve centers cannot rally, unaided, from these accumulated burdens, thus excluding a trial of expectant treatment; that unless the cerebral pressure be speedily relieved the patient will perish. In this emergency the question arises, What shall be done? "The indication is the evident necessity for a fixed course of action."—(Galen.) What is that "fixed course of action?" Undoubtedly to relieve the brain pressure by formal trephining. This alternative was suggested to the parents as offering the only hope of relief; that the result was doubtful and that the patient might succumb under the operation. Consent was unhesitatingly given, with the added injunction, to do the work thoroughly, omitting nothing which might conduce to their son's relief and to his ultimate recovery. Dr. Baker and myself were ably assisted and seconded in the varions steps of the operation by Dr. Nofsinger (retired).

OPERATION.

A crucial incison thus -|-, one and one-half inches long was made through the scalp over the center of the parietal bone. A considerable quantity of extravasated blood was turned out from under the scalp which was found to be extensively detached. The flaps were held aside with tenaculæ. The margins of the parietal at the sutures could be plainly felt by the probe under the scalp. The external surface of the bone was smooth, presenting no evidence of fracture in the outer table. Being guided by and acting upon general surgical principles, and keeping in mind that wise maxim, "Think you are operating on the thinnest skull ever seen, and thinner in one-half the circle than the other;"* the trephine was applied over the most depressed point on the bone, and a segment cautiously removed. Considerable hæmorrhage occurred immediately the cranial cavity was penetrated. The blood was dark, being undoubtedly extravasated between the membranes and the bone. Examination of the button elucidated the whole situation; the fracture was found to be limited to the vitreous plate, the fissure being fortunately cut across by the trephine.

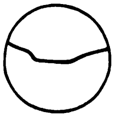

FIG. 2.

Appearance of inner surface of the button, showing line of fissure.

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*Holden. Landmarks: Anatomical and Surgical. London, 1876.

The dura mater presented a dark red color, revealing inflammatory action; no laceration of the membranes could be detected. The elevator was introduced and the depressed tables restored to their normal position. The boy stood the operation well and rallied promptly. He had no more spasms after the operation, and rested well during the night.

At three o'clock the following morning he roused up with returning consciousness, asked for something to eat, remarking that a "fellow couldn't get well if he did not eat," etc.—the first coherent utterance he had made in twenty-four hours. He speedily regained full consciousness, and made an uninterrupted and complete recovery. The scalp wound healed on October 31st.

During convalescence he had strabismus; very marked in the left eye, a mere trace in the right one; double vision; objects appeared one on top of the other, or sidways, thus:

$$\begin{matrix} h \\ h \end{matrix} \text{ or thus, } \begin{matrix} h & \\ & h \end{matrix}$$

This muscular asthenopia and the attendant errors of vision were speedily relieved by appropriate lenses —thirty-six inch convex for both eyes—and the administration of Gelsem.*0* every three hours. The lenses and the remedy were prescribed by my friend, Dr. F. F. Casseday, oculist, of this city.

Remarks.

The return of conciousness a short time after the accident and the long interval between that event and the supervention of unmistakable symptoms of compression, will recall the observation of Fergusson, already cited. Entire absence of paralysis of sphincters or other muscles will be noted.

From this history and the symptoms named it will be readily inferred that the diagnosis in this case was no easy affair; that the proper course to pursue was at first in some doubt; and indeed it may appear to the minds of some that the operation was undertaken upon insufficient ground. The result, however, demonstrated the wisdom of the proceeding.

RESULTS OF TREPHINING.

The operation in civil practice has been followed by varying results in the hands of different surgeons.* In the hospitals of Paris and Vienna the operation is nearly always fatal; in London, Dublin, Edinburgh, Glasgow, and other large cities of Great Britain, the mortality, although also very high, is much less; and in the United States the number of recoveries in proportion to the number of deaths, is as nearly as can be arrived at, as 1 to 4. Dr. Lente reports that of forty-five cases of fracture of the skull subjected to trephining, eleven were cured. The operation finds undoubtedly its greatest success in private practice. Of six cases coming under the writer's observation—five in his own practice—all made admirable and perfect recoveries. The sources of danger after operation are hæmorrhage, erysipelas, encephalo-meningitis, pyæmia, fungus of the brain, profuse suppuration, hectic irritation, periostitis and caries.

Remarkable operations upon the bony vault are recorded by several different authors. Saviard trephined one person twenty times successfully; Martel and Le Gendre, in 1686, took away nearly the whole of both parietal bones, and yet the patient made an excellent recovery. Marechal applied the trephine successfully twelve times; Gooch thirteen times; Desportes twelve times; Schumaker relates a case where the operation was performed eleven times in less than a month, and with so little inconvenience to the patient that he seldom went to bed after it. Phillip, Count of Nassau, fractured his skull in several places by a fall from his horse: he was trephined twenty-seven times by Henry Chadborn, a surgeon of Neomagen, to whom, after his recovery, he gave a certificate as a proof of skill.

The most extensive use of the trephine in modern times is that recorded by Mr. Guthrie, to whom the details were furnished by Dr. Evans. The case was one involving both tables; twelve perforations were required to render the elevation of the depressed bone possible. The pressure was not then fully relieved until the dura mater was incised to evacuate the extravasated blood. The patient fully recovered. The membranes should not be incised if possible to avoid it, owing to the great danger of hæmorrhage and of encephalitis. Other cases of very extensive destruction of the cranial bones are recorded where the trephine was applied and the patients fully restored.

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*Gross. Ibid.

In military practice the results of trephining for fracture of the skull with depression are extremely disastrous. In the Schleswig-Holstein war, Stromeyer reports that of forty-one cases of gunshot fracture of the skull with depression, seven died and thirty-four recovered. Of the latter one was trephined—the only operation throughout that war, which issued favorably. This operation was most pointedly condemned by Stromeyer and the surgeons generally in that war. In the Crimean war the English surgeons operated, successfully, only four times, and then not on account of rifle ball wounds. In the French army Dr. Scrive asserted that the operation was mostly unsuccessful. Of twenty cases operated upon by Pirogoff and others only six recovered. In explanation of this melancholy result, it may be presumed that the operation was only a little more in fashion than with Stromeyer, and resorted to in cases of the gravest character alone; and that then, in fact, the patients did not perish from the trephining, but from the primary wounds for the relief of which the operation was undertaken.*

In our late war the trephine was applied, it would appear, with much greater frequency, and with vastly more gratifying results. Of sixteen cases of operative interference after gun-shot contusions of the cranial bones, four only had a favorable termination, and these were examples of the secondary removal of exfoliated fragments, wherein nature was supplemented by art.† Dr. Otis ‡ records twenty cases of fracture of the *inner table*—nineteen of

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*Gross. Ibid.
† Medical and Surgical History of the War. Pt. 1, Vol. 1, p. 126.
‡ Ibid, p. 150.

whom died. Trephining in four cases was unavailing. The operations were performed on general surgical principles. That they were unsuccessful only corroborates the opinion that has been so strongly impressed on the minds of surgeons of the present day that authentic examples of successful trephining for matter between the bone and dura mater are now very rarely cited.

The result of trephining for *all causes* in 220 cases, was: 95 recoveries, 124 deaths, 1 undetermined—being a mortality ratio of 56.6. To this list is added from records subsequently examined, nine cases—the histories of which are detailed: seven made more or less complete recoveries, aud two died.

The distinguished Gross* states that fracture of the inner table of the cranium is "chiefly, if not exclusively, caused by gun-shot injury." "The lesion is seldom discovered until after death, as it does not give rise to any marked, much less characteristic symptoms." These assertions may be regarded as too comprehensive, as a considerable number of cases of this form of fracture are recorded by credible observers, which were not caused by gun-shot wounds, were correctly diagnosed, subjected to trephining and cured. That this fracture is most commonly caused as stated, and that the recognized cases are comparatively infrequent, would more nearly convey the exact truth. The writer of this paper has successfully trephined three cases of fracture of the inner table alone, under well-defined indications for the operation—none of which were caused by gun-shot injury.

HISTORY OF TREPHINING FOR FRACTURE OF THE INNER TABLE.

It has been asserted that this form of fracture was known to Hippocrates, Celsus, Paul of Aegina, Vidus Vidius, and other ancient writers, but the evidence is insufficient. Mr. Teevan † declares that Jacobus Berengarius was one of the earliest writers who was aware of this lesion. Ambroise Paré[‡] certainly records the first case of this fracture wherein he found, after death, that the inner table was depressed, the outer being uninjured. Subsequently cases are recorded, one by Garengeot[§] successfully trephined. Saucerotte,[||] among others, quotes one case from Tulpius, 1716, which terminated fatally after trephining. Le Dran[*] records an example of this lesion caused by a fall, unsuccessfully trephined. Pott[†] furnishes two cases, both of whom died, one being trephined. In one instance the fracture was produced by a fall, in the other it resulted from a blow on the head. Pott adds that these are the only instances he had met of fracture of the inner tables alone, but that he made no doubt that some of those "thought to have been destroyed by concussion, have sunk under this kind of mischief."

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* System of Surgery, Vol. 2, p. 152.

† The British and Foreign Med. Chir. Rev., Vol. 36, p. 189.

Bilgeur[††] records the case of a colonel of grenadiers, wherein the inner plate of the frontal bone was fractured by a small bullet; the trephine was applied three times, and the patient fully recovered. Ravaton[§§] adduces one case, the injury being caused by a ball, the patient perishing without operation.

Samuel Cooper[||||] trephined a man after the battle of Waterloo for compression resulting from a shot wound on right parietal bone; the external table came away in the hollow of the trephine, leaving the internal table behind, which was fractured and driven into the brain. No sooner were the fragments taken out than the man instantly sat up in bed, looked around, and began talking with the utmost rationality. He got up and dressed himself the same day and never had a bad symptom afterpards. Baudens[¶] records one case not subjected to operation, the patient dying on the fourth day from encephalitis. Bernhard Beck[**] relates three cases

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[‡] Oeuvres, Edition 1653, T. X., p. 225.

[§] Garengoet, Traite des Operations de Chirurgie, Paris, 1738.

[||] Saucerotte, T. 4, p. 322.

[*] Le Dran, Obs de Chirurg. T. 1, Obs. 17.

[†] Pott, Wounds and Contussions of the Head and Chir. Works.

[††] Bilgeur, J. U., Chirurgische Wahrnehmungen, Berlin, 1863, p. 30.

[§§] Pratique Moderne de la Chirurgie, Paris, 1776, T. 1, p. 210

[||||] Surgical Dictionary, Hennen, and Brodie Med. Chir. Trans.

[¶] Clinique des Plaies d'Armes a Feu, Paris, 1836, p. 80.

[**] Beck. Die Schusswunden, 1850. Langenbeck's Arch., 1862. Kreigschirurische Erfahrangen, 1867.

—all fatal—in two of which the injury was caused by gunshot wounds, the other by a blow on the head from a beer glass; none of these were trephined.

Ochwadt* records the case of a soldier who was struck on the left parietal bone by a bullet; death from encephalitis resulted on the seventh day. No operation was attempted.

Guttenburg† relates the case of a Baden soldier, who at Rastadt—1861—received a blow from a musket lock over the right parietal protuberance. He was not trephined and died on the twenty-fourth day.

Guthrie‡ adds two instances of this lesion, one died and one recovered.

La Motte supposes that fracture of the inner table alone might be ascertained by the peculiarity of the resonance of the skull on percussion, resembling the "cracked pot" sound, described in late years by auscultators of the chest, and cites an illustrative case.§ Atthalen, of Besancon held the same view, adducing an interesting and illustrative case which happened in 1746; but in this instance there was a fissure in the external table also. Stromeyer‖ also attaches value to this mode of diagnosis. He cites two cases, resulting fatally, neither of whom were subjected to the trephine. His interesting remarks on this subject are quoted at length: "This kind of injury, of which only one case has come to my notice, might be observed oftener if we still used the trepan as Pott did, or if one could obtain a reliable diagnosis without opening the cranium. By means of percussing with a silver probe, I was enabled in one case, when there was only a barely perceptible fissure in the outer table, to diagnosticate the extent of the inner separation accurately, and after the decease from pyæmia, in this same case, many of the young surgeons had the opportunity of convincing themselves of the correctness of my diagnosis. Any one of them, who possessed a practiced ear, could discriminate the sounds when percussing the outer table at the point of the internal fracture, or at other points of the cranium. At the point of the internal fracture the pitch is somewhat higher. Lanfrancus and Ambrose Paré, I find, already knew of this diagnostic expedient. It is wonderful that the inner table can be fractured and driven inwards considerably, while it is impossible to detect the least injury on the outer table by means of a lens even, as is the case in my specimens. At the same time, these cases are not isolated. Partial fractures of bones by bending are analogous to them. The outer table evidently possesses a greater elasticity, and is more pliable than the inner. One can form a good idea of the elasticity of the skull, as Hyrtl says, by throwing a fresh cranium on the floor, when it will rebound. These inner separations remain generally undiscovered, which is in my opinion lucky for the patient, because thereby he escapes the danger of being trepanned. It is not assuming too much to suppose that these cases would generally result favorably if the patient was subjected sufficiently long to an antiphlogistic diet, because the danger incurred by these cases is evidently less than in others, where the access of air to the splintered part of the inner table takes place. For the older surgeons, who did not know the difference between subcutaneous wounds and those exposed to the atmosphere, the lesions in cases of head injuries formed a constant source of anxiety. They could not explain to themselves what would become of the secretion of the wound. We now know that when the atmosphere is excluded and proper care is taken the inflammatory exudation will become reduced to a minimum, sufficient only to permit the healing process; while it will never become so much as to require an external exit channel.

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* Kriegschirurgische Erfahrungen, Berlin, 1865.
† Guttenburg in Langenbeck's Archives, B. 4.
‡ Guthrie, Commentaries, 1855.
§ La Motte, Observation de Chirurgie, T. 2, p. 303.
‖ Stromeyer, Maximem.

One need not revert fifteen years in surgical literature to be convinced that an unfounded dread of the impossibility of an exit for the secretions of the wound were then considered proper indications for trepanning. The ample information which one of the most zealous advocates of trepanning, one who was an excellent surgeon as well as a truthful man, I mean Percival Pott, has given us in regard to the effects of trepanning, leaves no doubt as to the theory that the access of air increases suppuration. In most cases of simple contusions, in which he trephined on account of the formation of pus internally, very little pus was found at the first operation; yet the symptons were generally aggravated, and trepanning was resorted to a sesond or third time, and not until the secondary operations were great quantities of pus disclosed. Thus, as usual, one mistake brought about another, and one ill-advised use of the trephine rendered its repetition necessary. The main symptoms which seemed to demand trephining, for the majority of surgeons addicted to the trephine, consisted in the stupor or insensibility of the patient. It really requires no small degree of firmness of conviction of the danger of the trephine to see a patient, not only for days but weeks, in a state of greater or less stupor or insensibility without resorting to the operation, when sometimes complete consciousness is restored immediately by a successful elevation of the depressed bone, or the removal of extravasated blood. It is not enough to remind one that patients with typhus often remain for weeks in a still deeper stupor, and yet gradually resume the use of their mental faculties; nor is it sufficient to recall the innumerable cases where trepanning, notwithstanding the apparent success of its purpose of elevating depressed bone, or removing extravasations, did not influence the restoration of consciousness, but where this was only gradually regained by means of an antiphlogistic treatment, one must have observed as often the successful cure of head injuries without trephining to be enabled to acquire such accuracy of observation, as nearly every physician possesses in regard to fever patients. Would not every one be called a miserable quack nowadays who would give a typhus patient musk, camphor or serpentaria on account of stupor? It will not be long before no favorable estimate will be had of any surgeon who will use the trepan on account of comatose conditions alone. The campaigns of 1849 and 1850 have, happily, given many young surgeons the opportunity to convince themselves with their own eyes, that one may look on a condition of semi-stupor for weeks without resorting to the trepan."

Pathological specimens of several other examples of fractures of the inner table only from external violence are referred to: one in the Dupuytren Museum, 29 A.[*] It is the calvarium of a young man trephined by Denonvilliers, in 1848, during the revolution in Paris; he died on the sixth day from encephalitis. Legonest[†] refers to a specimen of this fracture which he brought from the Crimea. Cowan[‡] presented a specimen to the Museum at Fort Pitt. The subject was a soldier who died on the thirteenth day from a fracture of the inner table. No operation was made. Hewitt[§] states that he observed three specimens of this form of fracture at St. George's Hospital.

Mr. Edwards[‖] presented a specimen to the Medico-Chirurgical Society of Edinburgh. The injury was produced by a blow from a cricket ball.

Demme[¶] refers to one case, resulting from a musket ball, the preparation of which he has preserved; Friedburg[**] reports one case in Virchow's Archives, the injury being caused by a fall; Bonetus[††] mentions that Cortesius had a skull in which this fracture was illustrated.

References to further examples are to be found by Scultetus, 1662; by Soulier, of Montpelier, 1819; by Salmuthius, 1648; by Platner, 1758; by Balting; by Smethius; by Döring; by Kuhk. Still other examples are ascribed to Arcaeus, 1658; to Valleriola; and to Borel, 1676, but they do not appear to have been fair illustrations.

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[*] Compendium de Chirurgie Practique.

[†] Legonest, Op. Cit.

[‡] Williamson's Military Surgery; Holme's System of Surgery.

[§] Medico-Chirurgical Transactions. 1853.

[‖] Edinburgh Medical Journal, 1862.

[¶] Demme, Specielle Chirurgie, etc. Wurzburg, 1857.

[**] Virchow Archiv. 1861.

[††] Bonetus. Geneva, 1700.

Guthrie‡‡ remarks that "the records of eighteen centuries have produced but little information on this most interesting subject. I have never, in the great number of broken heads I have had under my care on many different and grand occasions, actually known the inner table to be separated from the outer, without positive marks of an injury having been inflicted on the bone or pericranium, however slight that injury may have been. An operation should never, then, be performed under the expectation that such an accident may have happened unless it is apparently required by the urgency of the symptoms indicating compression or irritation of the brain, which cannot be relieved by other means."

The mechanism of this form of fracture has been misunderstood until a recent date. Gross appears to be among the earliest American surgeons who had a correct opinion on this point. "For centuries it had been taught that this form of fracture took place because of the great brittleness of the inner table."* Brodie† expresses the English view: "The greater elasticity of the outer table of the skull and the greater btittleness of the inner table, seems to afford the only reasonable solution of these phenomena." The French and German surgeons entertained a similar view. This was universally held and taught until 1865, when Teevan‡ demonstrated that the cause of this fracture was not the brittleness of the vitreous plate, neither was it to be sought for in any of the reasons heretofore assigned; but that it occurred in obedience to a well-known physical law, viz.: that fracture always commences in the line of extension, not that of compression.

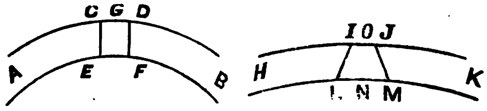

Fig. 1. Fig. 2.

Fig. 3. Diagrams showing the mechanism of fracture of the inner table alone, of the skull.

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‡‡ Guthrie, On Injuries of the Head, etc., p. 79.

* Medical and Surgical History of the War, op. cit.

† Brodie, Med. Chirurg. Trans., Vol. 14, p. 331.

‡ Teevan, Brit. and For. Med. Chir. Rev., October, 1865.

Explanation of the Diagrams.

Let A B, Fig. 1, be a section of the skull. Draw two vertical lines, C E and D F, parallel to one another. Now, if pressure de applied at G, temporary depression takes place, and the bone assumes the shape of H E, Fig. 2, and the lines C, E, D, F are no longer parallel to each other, but converge towards each other, at the upper surface I, L, J, M, so that the distance from I to J is less than that from C to D, but the distance from L to M is greater than that from E to F, signifying that the atoms of bone in the upper surface from I to J have been brought nearer to each other or compressed, whilst the atoms of bone in the lower surface from L to M have been extended or separated from each other; therefore if any fracture takes place, it is clear it must do so in the line of extension L M, and at that point in the line where the greatest extension is going on, which is at N, exactly opposite the spot O, where the pressure was applied.

Proof.

Take a cane slightly bent, say A B, Fig. 1, and insert two pins or wires; C, E, D, F vertically and parallel to each other, the more the pins project at each surface the more manifest will be the result. Exert pressure at G till the cane is made flatter, H K. It will now be found that the wires are no longer parallel to each other, but converge along the upper surface so that the distance between them, from I to J, is less than that from C to D, but the distance from L to M is greater than that from E to F, showing clearly that the atoms along the line I J have been compressed and brought nearer to each other, whilst those along the line L M have been extended; consequently, if any fracture takes place it must be at N. If the pressure on the cane be continued till it breaks, it will be found it commences to break at N.

It is the force and not the direction of the violence that produces the fracture. "It is justly remarked that many cases of this form of injury terminate favorably and are never recognized, and, therefore that the diagnosis must generally be obscure until cleared up by the trephine or by autopsy." "It is evident that the treatment of this form of injury must be determined by those principles which guide us in treating scalp wounds, contusions of the cranial bones, concussion and compression of the brain. When symptoms of compression are urgent and persistent, the application of the trephine is undeniably justifiable."*

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*Otis, Medical and Surgical History of the War.

HOMŒOPATHIC THERAPEUTICS IN GUNSHOT-WOUNDS, AND THE SEQUELÆ OF OPERATIONS.

dward
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This variety of traumatic lesions includes all injuries inflicted by missiles projected by the explosive force of gunpowder. Though comparatively rare in civil practice, yet in this country, where the sports of the field are so common, they occur with sufficient frequency to render a knowledge of them and of their effects indispensable to the accomplished surgeon. Occurring in all portions of the body, and in various degrees of severity, they present a wide and interesting field of study and investigation.

History.—From the earliest period of the employment of gunpowder in war alone, down to the present time, when it is also extensively and variously used for engineering purposes; the wounds inflicted by its means have excited the liveliest interest in the chirurgic mind, often appealed to by terrible injuries produced by the bursting of shells or the blasting of rocks.

That military surgery does not materially differ from the surgery of civil life is true only with some reservation.

As a science, surgery is the same whether practised in the wide operating tent of the army-surgeon's quarters, or in the cozy amphitheatre of the city hospital. As an art, however, it varies according to the peculiar nature of the injuries to be treated and with the attending circumstances. If we compare the almost superstitious dread with which the older surgeons regarded the effects of gunshot-wounds, and the erroneous views they entertained of inducing healthy action, with the accumulated experience and scientific treatment of to-day, we see at once the great advance that has been made in this department of operative surgery. Formerly the wound was considered a poisoned one, which could only be cured by a long and tedious process of suppuration that would prevent the absorption of the poison into the patient's system. The irritative fever, the emaciation and other results of the protracted cure of the injury, were thought to be so many evidences of the indirect effects of the poison permeating the physical structure; just as the shock or injury, the loss of vitality along the surface track of a small projectile, or of the tissues denuded by the passage of a cannon-ball, were considered evidences of its indirect effects. In obedience to this method of reasoning, the openings of entrance and exit of the ball were incised; the wound dilated by tents or other substances; terebinthinates, or even boiling oil poured into it; and irritating compounds and ointments applied, where superficial dressings were practicable; and it was only after the wound was considered to be fully purged of its venom and foul humors, by the extensive suppurative action thus kept up, that cicatrization was permitted to be established.

It required many years of observation, many and severe human conflicts, untold misery and death of thousands of the race, besides the exercise of much labor and moral courage, to stem the tide of professional custom and prejudice, and inaugurate a simpler, better and more efficacious method of treatment. Not until the great and last achievement of the celebrated John Hunter, who wrote on the subject of the "Blood, Inflammation and Gunshot-wounds," in 1794, was the profession thoroughly awakened from the ignorance and prejudice which up to that time had prevailed in all departments of surgical science and art. Having served as a surgeon on the staff of the army in the expedition against Belleisle, in 1760, and subsequently in the same capacity in the campaign in Portugal, in 1763, Hunter had acquired a reputation that elevated him to the highest positions in the medical department of the British service. In 1776 he was appointed Surgeon Extraordinary to the army, in 1786 Deputy Surgeon-general, and in 1791 Surgeon-general; the highest medical position then known in England.

It was John Hunter, also, who advocated with great force the delay of amputation, after severe gunshot-wounds, that "the patient's constitution might accommodate itself to the injury;" a proceeding which more extended observation and experience have demonstrated to be more dangerous than the primary or immediate operation.

Mr. Guthrie writes, in his "Commentaries on the Surgery of the Peninsular War, between 1808 and 1815," that the principles and practice of surgery, which prevailed at the beginning of the war were almost entirely superseded at its conclusion; and further adds that the art of surgery received greater impulse and improvement from the practical experience of that war than ever before.

The still more recent military operations in Algeria, in Schleswig, in Holstein, in the Crimea and India, have furnished abundant opportunity of testing practically many great improvements that have been made in surgery by its distinguished practitioners, both in civil and military life. Prominent among these may be cited the excision of joints, in lieu of amputation of limbs, that was so largely practised by the older surgeons; resections of injured portions in the continuity of bones; amputations limited to the removal of terminal portions of the extremities destroyed by the original injury; and other methods of what has been styled conservative surgery.

The war of the Rebellion in our own country has perhaps added as largely to our experience in the treatment of gunshot-wounds, especially from rifled arms, as any of the wars previously referred to. The Government of the United States, following the example of England, is still engaged in collecting and arranging the observations and experience of its medical officers during the war of the Rebellion, and has published a valuable and instructive series of reports, covering a large percentage of the injuries of the war and their results. Illustrations of morbid specimens and carefully-drawn cuts of surgical diseases prepared during and after the war, have been collected and arranged for the Surgical Museum at Washington.

The great variety and severity of injuries from gunshot-wounds demand of the surgeon not only a knowledge of their treatment, but of the principles that govern projectiles; the form, weight and velocity of missiles, and their course and effects upon the body, as well as an intimate acquaintance with physiology and anatomy, in reference to the position of wounds and their consequent effects upon the system. This leads us to consider the qualities and kinds of projectiles in use at the present day, by which direct gunshot-wounds are produced, and which are included under the head of cannon, musket and rifle shot, shells, hand-grenades, case shot and other minor varieties. Besides these, are the agents by which indirect injuries are inflicted, such as stones or other hard substances driven from parapets or the surface of the ground by cannon-shot; splinters of wood from platforms and other frameworks; iron-spikes or fragments of other hard substances forcibly driven by contact with the flying ball or shot.

Forms of Missiles.—Among the various forms of projectiles known in the art of warfare, may be enumerated: 1. The spherical, which includes cannon-balls, grape, musket and pistol-shot, and shells; 2. The cylindro-conoidal, such as balls belonging to rifled cannon and muskets; 3. Irregular, but generally bounded by linear and jagged edges, as fragments of shell and splinters. In the largest kind of balls, such as are projected from cannon, siege or field pieces, the form is of little moment to the surgeon. The chief consideration in wounds from these missiles is the degree of force, or the momentum by which they are driven forward to produce their injurious results.

In the smaller variety, however, there is much that challenges attention. The effects of the cylindro-conoidal ball upon the osseous system, are very different from that of the common round ball. The former, with its wedge-like quality, splits the bones into fragments, the direction of the fracture running parallel with the central cavity, the fissures often extending from the seat of the injury to the joints, in which the bones terminated. From the round ball such results rarely occur; the fragments produced by their impingement being more of a cuboid form.

The splintering produced upon the apophysis of a bone by the conoidal bullets extends to a considerable distance into the shaft, while that from the round ball is usually limited to the apophysis itself. A knowledge of these results is of value to the surgeon when the operation of resection is considered, and will often guide his judgement as regards the propriety of operating when other means of information are inaccessible. Another result of the wedge-like form of the conoidal bullet is, that in coursing through soft structures it divides and separates tissues, and is, therefore, less opposed in its passage through their parts than the round ball. It is partly due to the form, as well as the increased momentum, of the pointed bullets, that the lodgment of balls is infrequent now as compared with the experience of former wars.

Weight of Missiles.—The generally-received opinion among medical men, that the weight of projectiles exercises injurious influences upon the human structure wherever wounded, is not borne out by observation.

In the Franco-Russian war, the bullets used by the Russians were nearly one-third heavier than those used by their opponents, yet the effects of these larger masses against bony structure were merely wider in proportion to their greater size and momentum; while in flesh-wounds the increased size of the orifice left by the larger ball gave readier exit to the foreign substances, and to the surface discharges.

Mr. Guthrie, who has enjoyed a large field of observation of the effects of missiles upon the human organism, says, that the musket-balls of the English, sixteen to the pound, produced no more mischievous effects upon the French wounded than were produced upon the British by the French bullets of twenty to the pound. It seems, therefore, to be well authenticated, that the form, solidity and velocity of musket-balls is of greater importance to the surgeon than their weight.

Course of Balls.—The circuitous and erratic courses of balls through the body, as related by older authors, have rarely been met with in later wars, owing to the fact that the conoidal rifle ball, almost in general use, penetrates soft tissues in a straight line, and enters bony structure like a wedge. It might seem that the track of a cylindro-conoidal bullet cannot correspond with a straight line; but if the surgeon will carefully place the patient in the position he occupied at the reception of the injury, it will be found on examination that the deviations from the straight line are more apparent than real. Allowance should of course be made for the spasmodic action of the various muscles, and the momentary displacement of other structures on the occurrence of the injury. A case came under my observation at the U. S. Mound City Hospital (near Cairo, Illinois) during the late war of the Rebellion, where a soldier, at the siege of Fort Donnelson, received a ball at the back of the neck to the right of the ligamentum nuchæ, which traversed the whole length of the spine, and made its exit near the nates. During the inflammatory period, the course of the ball was distinctly visible by a well-defined red line marking its track. Dr. Cauniff mentions a case of a private in one of the New Jersey regiments, wounded in the right arm while in the act of putting a cartridge into his musket. The ball, after cutting off his forefinger, passed directly through the body of the hand, and again entering the back part of the arm, about two inches from the wrist, ploughed a furrow for a few inches, then penetrating the deeper part of the arm, it finally made its exit, a little above the external condyle of the humerus.

During my service in the army, I was a witness to many interesting instances of the strange and anomalous course of balls in the various portions of the body. In one case, the bullet made more than two thirds the circuit of the neck, and was cut out just beneath the skin. In another, a ball entered at the crest of the ileum, passed downwards parallel with the thigh, and emerged just above the knee-joint.

Illustrative of this point, a case is related wherein a desperate lover attempted suicide with a loaded pistol, the muzzle having been placed in direct contact with the heart. The bullet in its flight struck the flat surface of a rib, deflected towards the spine, passed downward, and was removed at the buttocks.

Bullets sometimes remain in the body for a long time, frequently for life, without producing much inconvenience. Lying imbedded in the substance of a muscle or in the layers of its aponeurosis, it becomes incased within a fibrous sheath and the parts becoming accustomed to its presence, little or no inconvenience is felt by the system. But, when it lies in the course of a considerable nerve or large vessel, its pressure in the first instance may produce paralysis, and in the second occasion more or less disturbance in the circulation beyond that point. A most interesting case of this nature occurred in my practice about six years ago, in which a bullet was driven into the upper part of the thigh. All efforts for its removal proved unavailing. The wound healed, and the patient attended to his ordinary duties as if nothing had happened, when suddenly (four years after the injury) he was attacked with loss of motion in the leg. Having put himself under the care of one of our best surgeons and received no benefit, he presented himself to me for examination and treatment. Placing the body of the patient in the same position as when he received the injury, I examined carefully the upper part of the thigh, and discovered the bullet lying in contact with the crural nerve.

The ball was removed, the patient improved in strength and in a short time fully recovered the use of the limb, and up to this time enjoys uninterrupted health.

After the siege of Fort Donnelson, among the wounded sent to the Mount City Hospital, under my charge, was a private in one of the Illinois regiments, who had been struck by a six-pound rifle shot in the fleshy part of the hips. The wound appeared considerably lacerated and contused, but the fact of the missile being concealed within, had escaped the observation of the surgeon in attendance, owing to the large number of wounded requiring his aid and the want of sufficient time for extended and careful explorations. It was perhaps for a like reason that the ball was not discovered until the second day of his entrance into the hospital, when it was removed after considerable difficulty.

This specimen is still preserved in my private collection, and has created much surprise and discussion. The ball is cylindro-conoidal and is of cast iron, with a copper base, and evidently intended for rifled cannon.

Velocity of Missiles.—The velocity of motion of projectiles is an important consideration to the surgeon in its bearing on the wounds inflicted. The wounds received in modern warfare differ materially in character from those inflicted in olden times. In a table showing the force and velocity of certain moving bodies, the common musket ball is set down as moving at the rate of 850 miles per hour; the rifle ball 1,000; the 24 pound cannon shot at 1,600 miles per hour. The musket ball could not be depended on to hit an object beyond 80 yards, the ordinary rifle 250 yards; while the present Enfield rifle is sighted to hit an object at 900, and the short Enfield at 1,100 yards. The effects of these different rates of velocity are observed in the character of wounds inflicted; thus, a cannon ball, which, with but a slight velocity of motion added to its weight, would knock a man over; at rapid speed will carry away a limb without disturbing the general equilibrium of the body.

A musket ball, that would be arrested in its course half-way through a limb, is now replaced by a bullet which at the same distance will pass through several bodies in succession. This increased velocity produces its effects in two ways: first, by the greater destruction of tissues in the track of the projectile; second by the greater disturbance of the nervous system. The portions of the body traversed by a ball with this increased velocity are so shocked and contused, and the vital tissues so impaired, that healing by the first intention is exceedingly rare. Instances are given where gun-shot wounds have healed by the first intention, but these cases I think, are those wounds, that have been produced by the bullet becoming flattened or its edges jagged by coming in contact with some hard substance previous to the injury inflicted upon the body.

I have seen a few instances of this kind during my army experience; but these wounds are very different from the injuries inflicted by rifle balls under ordinary circumstances.

The splitting and destructive effect of conoidal balls on the shafts of the long bones of the extremities, were abundantly witnessed, during the war of the late rebellion. The old round balls, partly from their form, partly from the imperfect mechanism of the gun itself, with the corresponding diminished velocity, on hitting bones, either deflected in their course, or broke away a part of the shaft without further injury; or, having broken through the shell of the bone, would be found imbedded in its cancellated structure, or be "planed" without penetrating its substance.

The modern conoidal ball is made denser by mechanical pressure and, with its wedge-shaped end, possesses greater power of penetrating the tissues than the old fashioned moulded ball. This is abundantly proved by the injuries inflicted by the Enfield, Whitworth and Minnie rifles during the late American war. Both the records of the surgeon general's office and private collections gathered during the great war of the Rebellion show that the Minnie ball is rarely deflected in its passage through the body; and even when the ball has been very much battered, it has been known to pass through the largest bones; and with a lesser degree of momentum to bury itself in the cancellated structure rather than be turned aside by the object. The conoidal bullet seemes to penetrate with both an onward and a spiral motion, by which its destructive power is largely increased.

Law of Missiles.—First, the greater the velocity of the projectile, the greater is the danger to life; second, the swifter the bullet, the more direct is its course through the body; (hence, the greater danger of wounds of viscera and other important parts from balls received at close quarters); third, the slower the momentum of a ball, the more apt it will be to splinter the bone struck; forth, free and primary hemorrhage is more frequent from wounds made by swift, than slow balls; the latter being more frequently followed by secondary hemorrhage; fifth, a slow round ball, striking a bone without sufficient force to splinter it, is apt to be "planed" upon it; while a swift, round ball, striking against a sharp angle or crest of bone will often be split in two, each portion pursuing a different course. A ball penetrating the soft structures always produces a contused wound; and from the resistance experienced at the point of entrance, the contusion is more marked than at the point of exit. In consequence of the contraction of the surrounding structures, the orifice of entrance is smaller, and more contused and depressed from without inward, while that of the point of exit is large, ragged, everted, and irregular in its appearance; looking more like a lacerated wound. Mr. Guthrie explains these differences as due, partly to the momentum of the ball and partly to the resistance afforded by the soft structures. If the bullet strike the object, immediately following its discharge and when at the maximum of its velocity, the opening made will be small, round and contused, the parts appearing to be separated rather than divided. If it pass through soft structure only, its degree of momentum being but little opposed, the point of exit will differ slightly from that of entrance. If, however, the ball is opposed in its pasage by any hard substance, such as bone, ligament or cartilage, its velocity being lessened, the aperture of exit will be large, ragged and irregular. The point of entrance in all bullet wounds is actually smaller than that of the ball producing it, if made when the ball is flying with full velocity; becoming larger and more irregular in proportion to the diminished velocity of the missile.

The size of the missile inflicting the wound exercises considerabie influence on the character as well as the appearance of wounds; the larger the missile the greater the destruction of the structures, and vice versa. Chained cannon-shot and double-bullets were introduced into warfare during the Franco-Russian campaign; but the injuries inflicted by them, if any, have not been made a subject of especial comment. Dr. M. Schrive, in his "History of the Eastern Campaign" notices the fact that incendiary bullets, consisting of a small cylinder of copper, containing a quantity of detonating powder and made up in the form of an ordinary cartridge, wereused by the Russians against their foes. The object of the missile was to explode as soon it had entered the person, thereby inflicting a very serious and dangerous wound. "It was after the siege," Dr. Schrive remarks, "that these bullets were discovered, and certain wounds of a violent and frightful character accounted for."

Balls containing certain poisons, and others charged with detonating powder, are said to have been employed by the Southern army during the war of the Rebellion; but the most scrutinizing search on my part and on that of others connected with me, failed to discover any evidences of such missiles having been used. As the result of extensive lesions made by such missiles, death must take place immediately; or else the most violent and ungovernable gangrenous inflammation must ensue, imposing upon the surgeon amputation as the only alternative.

Spent Balls.—In connection with the preceding paragraphs it is proper to notice the effects upon the system of what are termed "spent balls," or projectiles of various weights moving with diminished velocity. After the momentum of a cannon-ball has been so diminished that it falls to the ground, it may, if uninterrupted, roll upon the surface of the earth at a speed a little grater than a man's ordinary walk. Striking an object at this time, it may produce a serious injury even to an extent demanding amputation, if the part struck should, perchance, be a foot or a leg. I was a witness of a severe injury of this character inflicted upon a private in one of the Missouri regiments. In a spirit of bravado, he attempted to stop one of these partly spent balls by interposing his foot against its onward movement; and lost his leg in consequence. Coming in contact with other portions of the body, a ball of this kind may inflict severe injuries to internal organs; the surface not showing any evidence of external injury sufficient to account for the damage done within. In the same manner, though without sufficient velocity to carry away a limb, it may produce extensive contusions of the external parts, and cause comminuted fractures of bones. Cannon-balls inflict injuries in two ways. First, they contuse a part without destroying the integuity of the skin; the ball strikes obliquely,. or rolls over the surface of the body, completely pulpfying muscles and lacerating vessels and nerves; laying open large joints, and literally mashing bones; and yet, owing to its elasticity, the skin is hardly bruised. By the older writers this was ascribed to what they termed "windage of balls," or the action of a current of air set in motion by the projectile. Second, cannon-balls coming in contact with a limb or portion of the body, carry away all the soft structures before it, tearing and lacerating them and inflicting the most frightful injuries. This so called "windage of balls" is purely mythical; as is proved by the fact, that during the different naval and military conflicts in the late Rebellion, I have known pieces of dress, parts of accoutrements, buttons, and even portions of the body to be taken away by balls, in rapid motion, without any serious injury being done to the structures beneath. A memorable instance of this kind was witnessed by the writer during the naval and land attack on Syayne's Bluff in 1863. Captain Groyn, commander of the U. S. gun-boat, Benton, while engaging the enemy's batteries, received a wound from a cannon-ball which struck the chest obliquely, and passing onward, carried away the skin and subjacent tissues; even exposing the ribs. This gallant and meritorious young officer lived several days after the injury, and died from the secondary and remote effects of the wounds.

Even hair from the head has been shaven off, and portions of the nose and ear have been carried away without any injury to the structures lying beneath or in close proximity,

Lodgement of Balls.—Diminished rate of velocity tends to the lodgement in the body of all kinds of projectiles. During the employment of the old fashioned round bullet, lodgement of balls was of frequent occurrence, owing to their small velocity, and their liability to be deflected from a direct course and to be checked by interposing obstacles. Conoidal bullets lodge only when their momentum has been nearly expended before entering the body; or, from the peculiarity in the posture of the individual wounded. A ball having had force enough to traverse a limb, may afterwards enter into another part of the body and lodge. A ball may penetrate so deep into the muscles, and lie so far from its point of entrance that the surgeon is, either unable to disclose its position, or, finding it, is fearful that in extricating it he may inflict greater damage on important parts. In case of lodgement of balls the effects will be either grave or otherwise; depending, as I have before remarked, upon the site or position of the offending object. Sometimes the "lodged balls" give rise to inflammatory trouble, and the formation of abscesses, which will open from time to time, and again heal, until the offending material approaches so near the surface, that it may be extracted without much difficulty.

Symptoms of Gunshot-Wounds.—Having discussed the qualities of missiles by which gunshot-wounds are inflicted, I shall now consider the characteristic features and symptoms of the wounds themselves. The symptoms of this variety of wounds are of two kinds, *local* and *constitutional.* The local symptoms reflect the condition of lacerated and contused wounds. The leading characteristics are, much tearing and stretching of the tissues, and very often considerable laceration of the soft structures. When a cannon-ball strikes the body in a direct line, it carries away all that is before it. If the head, chest or abdomen be the part struck, an opening is made into it corresponding to the size of the ball; the internal organs are broken and scattered in every direction, and life is extinguished at once. If it be a part of an extremity which is removed, the stump will be found pulpified, contused, and minute particles of bone seen buried in the fleshy portions; the end remaining attached to the body swinging uselessly. In a wound by *ricochet,* or when the velocity of the projectile is partially expended, the portion struck may likewise be carried away, but the laceration of the structures will be even greater than in the first instance. Muscles will be detached from each other, and their denuded portions appear flabby, with impaired vitality; spiculæ of bone will be found attached to the broken surface, and the shaft may be shattered and split far above the line of its transverse division. If the momentum be still further diminished so as to approach the condition of a spent ball, the part struck may still be carried away, but the external appearances will be limited to extensive contusion and laceration of the soft structures, or great tumefaction and ecchymosis without rupture of the surface. When a cannon-ball strikes in a slanting direction, the external appearance of the parts will resemble that last described, modified of course by the degree of obliquity with which the part is struck. Fragments of shells and splinters of wood, when forcibly impinging upon the body, produce great separation and laceration of the living tissues, but do not grind and pulpify them as in the case of the round ball. Small missiles upon penetrating the body leave an opening similar to that of ordinary shot, varying, of course, according to the form and velocity of the projectile inflicting the wound.

Pain.—Pain consequent upon gunshot injuries is greater or less according to circumstances. In some cases it may be entirely absent, the person, although severely injured, being unconscious of the wound until some minutes after its infliction. It is characteristic of this class of wounds that the amount of pain is not commensurate with the degree of violence done to the parts; but rather dependent on constitutional peculiarities. I have frequently seen soldiers wounded in various parts of the body, entirely unconscious of their injury and fighting on as if nothing unusual had happened, until they were either overcome by the loss of blood, or had attention called to their condition by a comrade. Wrought to the highest pitch of excitement, amid the whirl of events and the continuous din of battle, I have seen some pushing forward, thoughtless of danger and fearless of death, oblivious to injury, and unconscious of their wounded condition; while others would falter and fall without a scratch, and imagine themselves severely and even mortally wounded. A remarkable instance of this latter kind, showing the impressionable character of some persons, and the powerful effect of the imagination, occurred during the charge of the Government troops upon the rebel batteries at Chickasaw Bayou, in December, 1862; when a young and gallant staff-officer was carried from the field in consequence of an alleged injury to his leg. Arriving at the Brigade Field Hospital, under my charge, he was laid upon a mattress, and an attendant was ordered to strip off his clothing, boots, etc., that the injury might be exposed. Immediate and careful search was made for the wound, but not the slightest abrasion appeared on any part of the body. Mortified beyond description at his self-delusion, the young man hastily rose to his feet, and mounting his horse rode away to the front. When pain attends a gunshot-wound, it is of a dead and aching kind; and differs essentially from the pain which accompanies either incised or punctured injuries; it is only severe when a considerable nerve is divided, and then it assumes a sharp, pricking character followed by numbness and perhaps paralysis of that part of the body supplied by the nerve.

Thus, division of the sciatic nerve in gunshot-wounds of the thigh, produces loss of both motion and sensation of the distal parts, attended with coldness of the limb. But the pain, which may have been slight at the reception of the injury, becomes intensely aggravated after the inflammatory symptoms have set in.

Hæmorrhage.—As a rule, hæmorrhage is not excessive in gunshot-wounds, nor at all in proportion to the severity of the injury. The tissues immediately connected with the track of the ball, are usually so much contused and their vital force so much shocked as to prevent the flow of blood from the smaller vessels. If a vessel of considerable size is partially divided the hæmorrhage will be extensive; but, if the vessel is cut entirely across, the flow of blood is very much diminished, in consequence of the vessel retracting within its sheath. In the former case the blood flows freely, and though it may be temporarily arrested by the clot, which forms during syncope; as soon as reaction takes place the clot will be washed away, the hæmorrhage again returns and so continues until prevented by mechanical means, or life is extinct from loss of blood. In the case of a vessel being entirely cut through, little or no hæmorrhage occurs at the time of the injury, but subsequently takes place when reaction sets in or the clot is washed away by other causes. But, while primary hæmorrhage is rare in this variety of wounds, secondary hæmorrhage is exceedingly common. The lacerated and contused condition of the injured structures is prolific of inflammation and its consequences, which, under the ulcerative process, sequestrates the injured structures, opening the vessels lying in its track, and hæmorrhage of greater or less magnitude is the result. A period of greatest danger in these wounds is when the sloughs begin to separate, which continues from the twelfth to the twentieth day. Previous to this time it is often impossible to ascertain the precise extent of the disorganization. Afterward the patient, if his limb be saved, may have to undergo the long and tedious process of exfoliation of dead bone, thereby incurring the risk of intercurrent attacks of erysipelas, hospital gangrene and visceral complications.

Symptoms.—When an important viscus is wounded, a limb suddenly shattered, or a cavity penetrated by a flying missile, the symptoms by which the system is affected by the injury are called "shock." The sufferer trembles, is pale and faint, and perhaps vomits. The features are shrunken, expressive of intense anxiety and distress. At times this "shock" is slight, even under serious injury; while in other cases it is disproportionate to the amount of injury; stout and vigorous persons often swooning away from the most insignificant wound.

Whatever is the cause of this difference in the *morale* of different persons, it is certainly true that many live in spite of the most severe injuries; while others die from comparatively slight and unimportant wounds. Temperament and idiosyncrasy exercise, no donbt, great weight in the production of these phenomena, and should modify largely the prognosis in the case.

It is said that veteran soldiers upon the field of battle (other things being equal) suffer much less nervous trepidation on account of their injuries than raw and inexperienced troops.

This does not correspond with observations made during my connection with the army during the Rebellion. For example, in the attack upon the rebel batteries at Chickasaw Bayou, General F. B. Blair's brigade, of which I was senior medical officer, composed almost entirely of raw levies, was ordered to lead the charge. The slaughter was immense, and, as a rule, the wounded, inexperienced, volunteers did fully as well under their wounds, and convalesced as well as the oldest veterans or regulars in the service. Other constitutional symptoms will supervene during treatment due to other causes, such as loss of blood, exhausting discharges, local irritation, insomnia, imperfect diet, etc.,etc.

Prognosis.—The prognosis of gun-shot wounds should be made with extreme caution and judgment; more especially when the shock is severe, or there is reason to fear that deep-seated parts are involved, inducing serious constitutional complications. The character of the wound, the form of the missile producing it, the constitutional status, previous service and past diseases of the patient; his temperament, idiosyncrasy, age and time elapsed since the injury, should be considered and carefully weighed before pronouncing final judgment upon the termination of the case. The mortality succeeding gunshot wounds depends less upon the direct effects of the injury received, than upon the subsequent complications; such as secondary hemorrhage, gangrene, erysipelas, hectic fever, tetanus, pyæmia, and the results of operations required as consequences of the original wound.

Mechanical Treatment.—It is impossible, in the limited space allowed for a monograph of this character, to do more than to sketch those general principles of treatment, that attach to gunshot-wounds, and the consequences that ensue from such injuries. The first thing to be accomplished after injury of this kind, is relief of "shock" by the use of those agents which tend to support the vital powers in their endeavor to overcome the deleterious impression made upon them. This is called reaction and is induced by placing the patient in a horizontal position, dashing cold water on the face, applying Ammonia, or other stimulating agents to the nose, briskly rubbing the limbs and chest with rubefacients, stimulating injections thrown up the rectum and internal use of those remedies that support the impaired nerve power. If internal hæmorrhage occur, those means should rather be employed that favor the formation of a clot, than those which excite the arterial system to increased action; as the increased flow of blood through the vessel washes away the clot and induces internal hæmorrhage. In such a case the patient should be placed upon his back, stimulants interdicted and either of the following remedies given according to its pathogenesis: Acon., China, Erigeron, Hamamelis, Secale cor., Ipecacuanha. The treatment of soldiers in the field, whenever circumstances admit, should consist of the use of such necessary surgical appliances and temporary dressings as may be required before they are removed to the Regimental or General Field Hospitals in the rear. A little attention to provisional dressings, and a few judicious directions to the attendants, while transporting them to the rear may avert serious complications in various ways. In the open field and near the scene of conflict, but far enough removed from danger both to the surgeon and patient, are what are called the "first lines of surgical assistance," where assistant surgeons are placed, to be ready at all times to render such assistance to the wounded as their injuries require.

In the British service and during siege operations, shot-proof coverings, constructed in the trenches, are placed at fixed points, where the wounded are received for the first examination and dressings, before they are conveyed to the hospitals in the rear. The French troops, in lieu of this service, employ flying field-hospitals (*ambulances volantes*) stationed at selected spots near the scene of the conflict to perform the like duties. When the wounded arrive at the field-hospital, the surgeons in attendance should be prepared to take immediate charge; to examine carefully each wound, to remove all foreign bodies which may have lodged there; to adjust the edges of the wound accurately and neatly and to apply the necessary dressings.

The diagnosis should be made out as clearly as possible, after the arrival of the patient at the field-hospital; all the attention required for his comfort and safety should be given at this time; the injuries should be carefully examined; the garments scrutinized to ascertain if any portion has been driven into the wound; and the required dressings be prepared for service.

In all gunshot-wounds the best and most reliable instrument for a thorough and complete examination is the finger of the surgeon. Exploration by this means establishes the direction of the wound; and, if a bone be fractured, the extent, shape, position, number and degree of looseness of the fragments can be more easily ascertained than by any other known process. If foreign bodies occupy the internal part of a wound, the finger will detect their quality, size and depth within. If the wound is so deep that it cannot be reached by the finger, pressing the soft parts with the other hand towards the exploring finger will often facilitate the examination.

If the finger should fail, the best substitute is a long silver probe, that can be readily bent if required, the better to adapt it to the irregularities of the wound; or, the bullet detector of Dr. Wilder. Elastic bougies and catheters have been employed by a few surgeons, but in my opinion they are inferior to the probe. As soon as the lodgement of a ball or missile has been ascertained it should be removed; and either of the following instruments may be employed for the purpose: Coxeter's extractor, Kolbe's bullet extractor, or the bullet forceps (of which there are a variety of styles and patterns.)

In certain cases I have employed the ordinary dressing forceps for extracting bullets, when all other instruments failed. In all deep seated wounds, caution must be employed for fear of injuring vessels or nerves which have escaped injury from the penetrating missile.

In removing slugs, fragments of shell, planed balls and such like objects, it is necessary to enlarge the wound for the ready exit of the offending materials. When it happens that a foreign body has penetrated only a small distance from the surface, and is felt lying under the integument, an incision may be made over the object to secure its removal, firmly holding it in situ before making the opening. If balls are impacted in bone, as may happen in the extremities of the long bones or in the bones of the pelvis, it is just as important that they be removed as those occupying the soft structures; although it is a well ascertained fact, that bullets have lodged in bones without producing any more serious inconvenience than abscesses and fistulous tracks. If the lodgement is superficial it can be extracted by means of a steel elevator; but, if the impaction be deep-seated, the " tire-fond screw " or " lever " sharp pointed bullet forceps, may be called into requisition. It should be impressed upon the mind of the surgeon, that rude manipulations and long continued attempts at extraction are not only unnecessary but absolutely injurious. Whenever gunshot-wounds have been subjected to much rude handling, laceration and disturbance of the tissues in extracting the foreign bodies lodged within, it should be the surgeon's duty to readjust and secure the broken surfaces as promptly and neatly as possible, by the application of strips of adhesive plaster, light pledgets of lint, moistened with the remedy to be locally applied, the adaptation of a roller, and the favorable position of the limb or part of the body wounded. Since pressure, weight and warmth are injurious to the process of granulation and cicatrization, the coverings should be light and the wounds frequently dressed with lint or charpie saturated with the indicated remedy. Velpeau and other French surgeons strongly advocated the use of linseed-meal poultices in lieu of water dressings. Baudens and Stromeyer extolled the topical application of ice by means of bladders: the dry earth treatment, and immersion of the extremity under water and retaining it there, have both had their distinguished adherents, but all these auxiliaries "pale their ineffectual fires," before the properly selected homœopathic remedy. After suppuration has fairly begun, the surgeon should be watchful of the accumulation of pus, and guard against the fistulous sinuses and abscesses that threaten the deeper seated portions contiguous to and dependent upon the wound.

If much tumefaction occur, or abscesses threaten, free incisions should be made for the purpose of drainage; and if the communication between the point of entrance and that of exit be tolerably direct, much benefit will be derived by injecting the sinus with warm water and following this with a solution of Calendula or Hypericum. If offensive odors are emitted from the wound, a few drops of Carbolic acid, Salicylic acid, Permanganate of potash or chlorinated Soda, may be added to the lotion for purposes of disinfection. The efficacious properties attributed to Carbolic acid, beside sits antiseptic powers, of preventing the occurence of erysipelas and hospital gangrene, so common in wards where many suppurating and sloughing wounds are grouped together, make it a remedy of great value. Cleanliness and ventilation are hygienic requisites that should be always insisted upon by the surgeon, in the treatment of such cases; especially in tropical climates and during heat of summer. During such times, flies propagate with wonderful rapidity, and depositing their ova in the opening of wounds, generate larvæ in great numbers. Dr. Proctor, of Kentucky, describes these insects as one of the greatest evils that the surgeons had to contend against during the war with Mexico. The same trouble was frequently experienced in the war of the Rebellion. Wounds carefully cleaned and dressed in the morning, were found infested with these parasites the following morning.

I have seen them present in wounds in great numbers, and in size equal to a crow-quill and from five to nine lines in length. The wounded view their appearance with no little alarm and horror. I have seen the stoutest hearted soldier sicken at the sight of these disgusting insects, and appear hopelessly willing to yield his life without farther struggle.

Sometimes they burrow deep into the tissues, producing great pain and distress. The best preventive of these parasites is continued and unceasing cleanliness with frequent renewal of the dressings. Afterward bury the affected part in dry bran. In such cases, I have seen the best effects follow the employment of a solution of Carbolic acid and Glycerine, or Carbolic acid alone, the maggot quickly disappearing after its application. The strength of the solution employed by me, is one drachm of the acid to one quart of water, which will not only destroy the larvæ, but will prevent the flies from depositing their ova upon the surfaces moistened with it.

Dr. Bumford, of Texas, gives particulars in the case of a patient who perished from the effects of the deposition of these insects in the nasal cavities, whence they ascended to the frontal sinuses, from which it was impossible to dislodge them by the best directed means. Dr. Comstock, of St. Louis, has derived great benefit, in such cases, from an ointment of Elder-bark, applied to the suppurating surfaces.

The custom of enlarging the orifices of gunshot-wounds, so much practised among continental surgeons, and so tenaciously adhered to by the French, has been of late years almost entirely abandoned. A modification of this practice was introduced into the Confederate service during the war of the Rebellion, by Dr. Chishold, of South Carolina. He pared the edges of the wound in such a way as to convert the opening into a subcutaneous wound, but the practice was not attended with the hoped-for success. This process was subsequently practised by the British surgeons in New Zealand in the recent Maori war, but there it also proved a failure.

Local Treatment.—After having extracted all foreign bodies that may be found in the soft structures, and bathed the parts well with warm water until they are perfectly cleansed from all impurities, a solution of Hypericum perf. (one ounce to one quart of water) should be applied to the wounded part by means of pledgets of lint or charpie laid upon the surface. In the course of the first twenty-four hours, the injured part becomes stiff, slightly swelled, tender and a slight inflammatory blush surrounds the open wounds. This continues for a day or two, and is succeeded by suppurative action when, under favorable circumstances the wound heals kindly, after a week or ten days, by granulation or cicatrization. If the case does not progress rapidly enough under the use of the above remedy, and the suppuration increases and becomes more diffused, recourse should be had to the use of Calendula officin. of the same strength as the foregoing, and kept constantly applied to the suppurating surfaces. Granulation will now soon take place, the length of time depending upon the strength of the patient's constitution, the exit opening being, as a rule, the first orifice to close. At the period of loosening and separation of the sloughs, there is always especial danger of the supervention of consecutive or secondary hæmorrhage.

At this time the patient requires to be carefully watched, and, if the wound be in proximity to a great vessel, a tourniquet should be thrown around the limb loosely, so as to be tightened at a moment's notice. If hæmorrhage occurs under these circumstances, the artery should be ligated in the wound if possible; if not, then in the most convenient situation above it. If this does not arrest it, and all means fail in preventing hæmorrhage, amputation is the next sad resource, but should never be done until all justifiable means have been resorted to in vain.

When the wound is complicated with unfavorable circumstances, whether inducing in the patient a condition of asthenia or its reverse, the cure may be protracted for weeks and months under the most skillful and careful management. If erysipelas should attack the wounded parts, the remedies applicable to that disease should be employed, just as if there were no other complications. For all contused conditions of the surface, unattended with division of the dermic structure, Arnica is, par excellence, the best remedy both externally and internally, if there are no systemic symptoms contraindicating its use.

Arnica.—The effects of this remedy are most marked and beneficial in those cases of gunshot-wounds when there is tendency to great depression, even to extinction of the vital powers. It is especially indicated in the contusions that follow gunshot-injuries; acting powerfully upon the vegetative sphere it stimulates the weakened and depressed absorbents into increased activity, especially when their function is impaired or even suspended by external injury. By virtue of this action, it becomes an important agent of cure in all congestions and low grades of inflammation that are the result of blows, kicks, contusions and sanguineous extravasations that follow injuries of whatever nature.

Calendula officinalis.—This is one of the most valuable remedies now known for the treatment of suppurating surfaces, ulcerations, etc., following gunshot-wounds. It exercises a profoundly curative impression upon the diseased tissues, prevents disintegration and ulceration to a great degree, and assists in expediting the process of granulation and cicatrization. I have employed it, with the most satisfactory results, in a large number of amputations, resections, and ulcerated surfaces, in hospitals and private practice, and in a great many instances perfect union of the divided edges was effected with the least possible suppuration. In some of the most frightfully lacerated wounds, followed by suppurative action, I have seen its prompt and beneficial effect; suppuration gradually diminishes and granulation takes place quickly; strikingly in contrast with the increasing suppuration and slow and tedious process of cure under allopathic medication. I consider it the best and most reliable *vulnerarium* now in use. It may be administered internally as well as locally, and may be continued under appropriate circumstances until complete and firm cicatrization has taken place.

Hypericum perf.—This is another valuable remedy in the treatment of wounds, and it is particularly called for when the parts have been extensively lacerated and torn, with engorgement of the capillaries, attended with more or less discharge of bloody serum. It stands in the same relation to laceration of the tissues, that Arnica holds to their contused condition. As a local application in lacerated wounds, before suppuration has set in, it stands preëminently among the most valuable remedies of the Materia Medica. It acts directly in removing the ill-effects of local shock, prevents, in a great measure, sympathetic irritation of the system from the local derangement, and modifies, in a corresponding degree, the subsequent inflammation and sloughing. In recent cases and after spasmodic irritation of the capillary system has passed away, a solution of this remedy, composed of one ounce of tincture to ten of water, applied constantly to the injured part has effected the most brilliant results in very severe lacerated wounds. The remedy in the slighter forms of laceration, if applied early, will often entirely arrest and always modify the supervention of ulceration and sloughing. By its use, I have succeeded in preserving the vitality of torn and lacerated tissues, when almost entirely separated from the body, and, in compound fractures of the feet and hands, with extensive laceration of the soft parts, the Hypericum has produced the most brilliant results. In a case of compound dislocation of two fingers, with severe laceration and tearing of the external structure, the members being severed except by a narrow bridge of skin uniting them to the body, I succeeded, by the use of this remedy, in completely saving the severed digits; the bones uniting on being replaced and maintained in apposition. I believe that this remedy is destined to become one of our most valued curative remedies in all cases of gunshot-wounds, and if I were compelled to select three remedies for the local dressings of this class of injuries on which solely to rely, I should select the three mentioned above; and by their use I should be certain of producing better and more satisfactory results than with the whole combined armamentarium of the Allopathic School. This I affirm, after a long and continued use of the remedies, and with a full conviction of their curative powers.

Momordica bals.—This remedial agent has been highly extolled by Drs. Hill and Hunt as a valued remedy for lacerated wounds, but whether this recommendation is based on practical observation or theoretical induction, I am not able to say. I have had little experience in the use of the remedy and cannot, therefore, speak *ex cathedra* of its sphere of action in the variety of wounds under consideration.

Constitutional Treatment.—The constitutional treatment of a patient with an ordinary gunshot-wound uncomplicated with any injury to bone or structures of first importance, is simple, and in accordance with the systemic derangements and irritations as they crop out during the existence of the wound. The surgeon should place his patient under the most favorable circumstances and surroundings; and the temperature of the apartment should be kept as nearly as possible at a uniform standard. Regard should be paid to ventilation; cleanliness should be observed, and attention given to his diet, and to the regular discharge of excrementitious substances as well as the avoidance of all irregular habits tending to excite febrile disturbance or aggravate local inflammation. The diet should be plain and nutritious, but not stimulating. If a tendency to stiffness exists in the limb, or contractions of the extremities be observed, they should be carefully and gradually overcome by passive motion employed from day to day at regular hours; also, frictions with the hand or rubbings with stimulating applications, will be found of service. A favorite remedy among French surgeons, in wounds threatening an unhealthy appearance, is a lotion composed of thirty drops of the Perchloride of iron to six times the amount of water. Combined with the local measures mentioned above, due attention must be given to all constitutional symptoms as they occur.

Aconite.—If the subsequent fever be frank and high, with full, bounding pulse, dry and hot skin, with restlessness and thirst, Aconite takes the place of both local and general bleeding, without the deleterious consequences of either, curing the inflammation "without going out of our way to produce debility, and thus favor the occurrence of toxicæmia."

It is generally the first remedy indicated in true inflammatory excitement, whether the inflammation is located in the coverings of the brain, the mucous or serous tissues, the muscular or glandular system, or the nobler organs in the three great cavities of the body. Its use is to restore the capillary equilibrium, and calm the nervous excitability, thereby producing resolution of the inflammatory process. Its action is primarily upon the cerebellum and the terminal ramifications of the cranial, spinal and sympathetic nerves, interwoven in the capillary tissue. It unloads the contracted, torpid or semi-paralyzed capillaries, which give rise to acute congestion or inflammation, and directs the blood onward in its course, thus giving freedom to the general circulation. "I have repeatedly felt justified," says Diez, "in declaring that Aconite is a universal anti-phlogistic, and corresponds to the first stage of inflammation." As a remedy for such, it holds the foremost rank of all medicinal agents which have been proved up to the present.

It not only supplies the place of all the anti-phlogistic remedies of the Allopathic School, but it is far superior to them all, as well in certainty of result, as in harmlessness in action.

Belladonna, Apis or Cantharis may be employed against the invasion of erysipelas, which will be indicated by chills, flashes of fever, headache, quick pulse and a simultaneous drying up of the secretions, the margins of the wound becoming slightly swollen and of a reddish tinge.

Merc. sol. should be given whenever there is danger of the formation of an abscess; and Hepar sulph. or Silic., whenever the abscess has been formed, to facilitate its pointing, which should be opened as soon as fluctuation is felt. If the surrounding integument assumes a dark red or bluish appearance, with an œdematous condition of the adjacent tissues, Arsen. or Lachesis will be demanded. Baryta and Conium will be found useful whenever induration takes place around the borders or within the deep tissues of the abscess. As soon as suppuration becomes fairly established, the diet should be generous. Sherry and other wines may be given, if used judiciously, and the patient's strength be sustained by the best directed efforts of the surgeon. If chills and fever supervene, with great restlessness, prostration, burning pains, sweats, etc., Arsenicum should be given and continued until amelioration takes place, when some other remedy may be substituted. Arsenic. and Lachesis are invariably indicated upon the supervention of gangrene. Ruta is useful in injuries of the periosteum, tarsal or carpal joints. Asafœtida, Mezereum, and especially Symphytum, are useful in those cases where the bones are affected.

Belladonna, Rhus tox. or Bryonia will assist materially when typhoid symptoms are present; also in delirium and in subacute inflammation of the brain and its membranes. In fact, whatever complications arise during the treatment of these wounds, they must be overcome by the indicated remedy, the same as if the derangement or disease was of first consideration.

Gelseminum.—This is a remedy of great curative power in inflammatory affections of a sthenic type, complicated with biliary derangements. In simple irritative fever following gunshot-wounds it is more competent to relieve the accompanying phenomena than Aconite; and, in such cases, challenges the attention of the surgeon. It corresponds with excessive nervous irritation, tendency to irregular convulsive action, periods of wakefulness, with nervous prostration and accessions of feverish stupor. In the endemic diseases of the Mississippi Valley, and in irritative fevers following wounds and injuries of various kinds, it acts promptly and efficaciously, quieting nervous irritation and excitement, equalizing the circulation, promoting perspiration and rectifying the various secretions, without causing nausea, vomiting or purging.

Veratrum vir.—This remedy exercises a powerful impression on the nervous centres and, through them, upon the great centre of circulation, resembling in its action the impression made by Aconite. Dr. Cauniff says that "it is a powerful antiphlogistic, that it acts upon the heart promptly and powerfully, producing coolness of the skin with moisture, in a very short time." In pneumonia and pleurisy following gunshot-wounds, I have found it an excellent remedy, arresting the inflammatory action quickly, and saving the lungs from the more severe consequences of the second stage or that of red hepatization. In diseases of the brain assuming a congestive type, and in all plethoric conditions when there is a tendency to organic lesion of the organ attacked, it is one of the most reliable and efficient remedies of our School.

Arsenicum.—This remedy is indicated more frequently in the secondary affections following gunshot-wounds, or in those adynamic conditions that are sometimes the result of surgical operations. It corresponds more closely to those adynamic characteristics of the system in which the vital organs are more deeply affected by the morbid process, and when there exists a manifest tendency to the formation of sores and petechiæ, with evident tendency to decomposition. In asthenic inflammations of a malignant type, tending to disorganization with vital prostration, and a predisposition to terminate in erysipelatous, gangrenous or cancerous affections, this is a potent and reliable remedy, and in these diseases following gunshot-wounds, I have derived from it the greatest amount of benefit.

Belladonna is especially demanded in persons of a plethoric nature, with tendency to congestions of blood to the head, lungs, or abdomen. It seems to act primarily upon the cerebro-spinal system of nerves, and secondarily upon the vascular system. In typhoid fevers following surgical operations, gunshot-wounds or injuries of whatever kind, where congestive symptoms predominate, it is a remedy in especial favor. In erysipelatous inflammation consequent upon gunshot-wounds, especially when it is disposed to invade the inner tissues, or where it attacks the face and spreads to the head inducing inflammation of the cerebrum and its envelopes, it is a prominent remedy.

The great Liston, in relating the treatment of a case of erysipelas, says: "We subdued the fever with Aconite, and then administered the Extract of Belladonna, and in twenty-four hours the disease had quite disappeared." And he adds: "How this effect is produced we cannot say, but it seems to act like magic, and as long as we benefit our patients we have no right to condemn the principles upon which this treatment is recommended and pursued."

Baptisia tinct. is indicated in those gunshot-wounds where secondary complications ensue, or where there is an adynamic type or condition as in typhoid and those low grades of fever that follow wounds. "Applied in the form of a lotion," says Hale, "to ulcers, mucous surfaces, etc., where there is a tendency to putrescence of the fluids and solids, gangrene, fetid discharges, it is said to correct the conditions in a very prompt manner." In affections of the glandular system, scrofulous and mercurial ulcers, erysipelatous degenerations, that may occur in the train of treatment of gunshot-wounds, it is a valuable addition to the Materia Medica.

Bryonia alba is a remedy of remarkable efficiency in many of the diseases incident to gunshot-wounds, especially in those conditions that occupy an intermediate position between inflammation and nervous irritation. It is especially curative in hyperæmia of serous and mucous membranes; in affections where resorption is required, such as typhoid infiltrations, serous effusions and sanguineous exudations. In those tearing and lacerating pains greatly increased by motion and aggravated at night it is particularly indicated.

Chininum sulph. is often of value in periodic diseases following gunshot-injuries, or the surgical operations required in their treatment, miasmatic diseases, cerebral congestions which assume a paroxysmal tendency, disturbances of the special senses, and depression of the vascular system, constitute important indications for its use.

Hepar sulph. is more specially indicated in the secondary conditions that crop out in the treatment of gunshot-injuries. It is of primary importance in all those conditions wherein suppuration threatens or the formation of abscesses are apprehended.

Calcarea carb. is valuable in all those affections belonging to a scrofulous degeneration, such as scrofulous ulcers following gunshot-wounds, wherein the powers of life are depressed in consequence of the constitutional effect of the injury, in psoas abscess, ulcerations of the joints, and during the reunion of bones, in fractures and injuries when the conservative process is relied upon in the treatment of the case.

Silicea is preferable to the former remedy in affections of the bones, and where there exists a tendency to glandular swellings in consequence of a scrofulous diathesis. It possesses an extraordinary control over suppurative processes, hastens the maturing of abscesses when desired, and certainly reduces suppuration to moderate limits.

Symphytum.—In all diseases of bone following gunshot-wounds, especially after the acute stage has passed away, where there exists an impairment of nerve-power, or debility from any cause, keeping up a retardation of the reparative process, there is no remedy of which I have any knowledge, that compares with Symphytum. It has accomplished in my hands the most beneficial results in assisting the reparative process, causing proliferation of cells and the rapid formation of the constructive process.

These are a few of the more important remedies applicable to the treatment of gunshot-wounds; others may be called into requisition, depending, of course, upon the various diseased conditions that may arise during the treatment of the case, each of which must be combatted and controlled by the appropriate similimum.

Surgical Interference.—On this occasion I shall not enter into the comparative advantages of primary as compared with secondary amputations in gunshot-wounds. I would refer the reader to quite a lengthened review of this subject in my treatise on the "Science and Art of Surgery," vol. i., p. 719, entitled "Primary and Secondary Amputations considered."

For a long time the opinion has been held that primary amputations should not be performed until the first inflammation has passed away, but the experience of late years has proved this position to be untenable.

The great success of primary amputations seems to depend upon the following conditions: 1. That a mangled and contused limb is a constant source of accumulative irritation, and the sooner it is dispensed with the better for the patient; 2. The excitement of battle lends courage to the sufferer in the primary operation, and makes him the better able to bear the early amputation, while the influences that associate themselves with hospital life, are depressing and injurious; 3. The operation removes a continual source of dread and suffering, that must produce its moral effect upon the patient so long as it is impending; 4. Anæsthesia acts more promptly and beneficently in the earlier than in the later period of gunshot-wounds.

Recent and extensive observations in foreign wars as well as during the war of the Rebellion, have established the fact that primary amputations, as a rule, promise better results than the secondary. Dr. Scrive, in recording the experience of the French army in the Crimea, shows that primary exceeded by two-thirds secondary amputations. During my connection with the United States service in the war of the Rebellion, especially in the latter part of it, I acted on the principle, that the sooner, after injury, amputation is performed, the better, *ceteris paribus*, is the chance for recovery. Whenever I could get ready access to the severely wounded requiring surgical interference, even amid the din of battle, my judgment led me to believe that immediate operation gave the greatest hope of success. I therefore operated at once, using the period of shock, or Nature's anæsthesia, as the most opportune time for surgical relief, without waiting for the period of reaction upon which so much stress is laid by many writers. The best results, as a rule, followed where the operations were performed before the commencement of reaction from the shock of injury. I have operated scores of times during my army service, after waiting for arterial reaction and the administration of anæsthetics; but I always observed in such cases that the recovery was slower and less certain, than the like operation performed during the period of Nature's shock (*vide* the author's "Science and Art of Surgery, vol. i., p. 720, *et seq.*).

During active operations in the field, when it becomes necessary to transport the wounded some distance, it is absolutely imperative that the surgeon should make all necessary amputations *immediately* as the surest means of preserving the lives of his patients.

The consequences of gunshot-injuries depend in a great degree upon the severity and extent of the wound, the nature and importance of the structures affected, the judicious management of the case in the first stage and the constitutional vigor of the patient. Among the most prominent of the diseases consequent upon this class of injuries may be specified: erysipelas, inflammation of particular structures, mortification, gangrene, pyæmia, fistula, paralysis, tetanus, pneumonia, phagedena, hernia, etc., etc.

Compliments of the Author.

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Orificial Surgery
and Chronic Disease.

BY

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ORIFICIAL SURGERY AND CHRONIC DISEASE.

BY

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SOME six or seven years ago Dr. E. H. Pratt, of Chicago, gave to the medical world his views on orificial philosophy which have since been so liberally besprinkled with criticism, scorn and ridicule.

The philosophy having lived and grown now presents itself, as a young giant, the indispensable agent in almost all chronic disease.

A few words as to this new philosophy.

We are to recall that all nutrition depends on the blood; given poor circulation, either general or local, and there is trouble; but with a good capillary flow all nature works in harmony. Now the blood supply depends on the condition of the vaso-motor nerves, the nerves which control the calibre of the vessels.

These nerves get their force from both the great nerve systems, the cerebro-spinal and the sympathetic, but it is the sympathetic on which they mainly depend, as the sympathetic never sleeps. We may be unconscious from normal slumber, from injury or from anæsthesia, and our sympathetic, like our guardian angel, watches over and keeps our heart pumping, our lungs contracting and expanding, and keeps going all the other necessary actions of life. Seeing the necessity of this nerve force we can readily see how a waste of it will affect the general nutrition and consequent health. In further elucidation of this philosophy we are reminded that we live by tubes, *i.e.*, our vegetative existence depends on tubes—our whole alimentary canal is one tube into which empty tubes from the liver, pancreas, etc. The salivary, gastric and intestinal juices are elaborated by tubes—our kidneys are a mass of tubes emptying into larger ones, the ureters, so to the bladder and urethra; and our bloodvessel system comes under the same category as do the bronchial tubes and their ramifications. All the tubes carry on their functions by peristalsis, and this peristaltic motion is controlled by the vaso-motor nerves; again we see the importance of conserving the force that supplies the vaso-motor nerves.

The next axiom dwelt upon is that "the irritation of an organ begins at its mouth." If this is not readily assented to recall that a cystitis begins as a urethritis, an endometritis as a cervicitis, a vaginitis as a vulvitis, and who ever saw a chronic bowel disease without piles, pockets or papillæ?

As all muscles must be stimulated by nerves and get their power from nerve force, so any work of a muscle must have its consequent nerve expenditure. We know that when a muscle is called on to be continually contracted, it is much more wearing than when alternately contracted and relaxed; a man can walk about all day without excessive fatigue, but one hour's standing rigid will in many cases cause so much exhaustion as to thoroughly prostrate.

Remember that the openings of the body are controlled by muscles (sphincters) whose normal condition is neither contraction or relaxation. If anything causes these (one or more) muscles to continually contract we have the consequent exhaustion, the result of a waste of nerve force, and as a sequence other parts of the body are deprived of their needed nervous impulse. When these other parts become affected we call it reflex. The sympathetic nerves are both efferent and afferent, and if irritated they respond by muscular action. So irritation of the rectum will cause spasm of the sphincter muscle and continued irritation, such as may be caused by any abnormality, as piles, pockets, papillæ or polypi will cause continued contraction resulting in continued nerve waste.

Another fact Pratt has demonstrated is the intimate connection between the several orifices, their interdependence of normal function on one another. This he accounts for by saying that the nerve supply is by "pencils;" that the same nerve by different branches supplys different organs. The connection between the uterus and breasts is a familiar example of this branching; you all know how sucking the breasts will contract the uterus in childbed, causing afterpains. Dropping orificial philosophy we turn for a few minutes to chronic diseases. How do they differ from the ordinary diseases we have to treat?

Primarily by their chronicity, secondarily by their different manifestations, especially under treatment. How often have we treated a dyspepsia to a cure as we fondly hoped, only to find a varicose ulcer develop or a neuralgia manifest itself. I recall one case of eczema which turned to acute gastro-enteritis when suppressed, and later changed to a distressing asthma, with the peculiarity that when the asthma was less troublesome the eczema appeared, and vice versa.

This subject of chronic disease has puzzled the medical profession for ages. Hahnemann's theories of syphilis, sycosis and psora are inadequate, in my opinion, in many cases. Pratt says: "In all pathological conditions, surgical or medical, which linger persistently in spite of all efforts at removal, from the delicate derangements of brain substance that induce insanity and the various forms of neurasthenia, to the great variety of morbid changes repeatedly found in the coarser structures of the body, there will invariably be found more or less irritation of the rectum or the orifices of the sexual system or of both."

If this philosophy be true, what a veritable Eldorado it offers to suffering humanity; our prognoses must all be revised, diseases heretofore considered incurable may be made "to haul down their bloody flag of no surrender," and backaches, headaches, constipations, eczemas, dysmenorrhœas, asthmas, neuralgias, neurasthenias, hay fever, acne, hysteria, hypochondriasis, epilepsy, locomotor ataxia, palsy, insanity—and even consumption may no longer be the *odium medicum* —may all be as amenable to treatment as a pneumonia, a typhoid, or a scarlatina.

Heretofore, in a chronic case, we questioned and cross-questioned to get symptoms to fit a remedy, and unless some marked symptom pointed to orificial troubles, never bothered our patient with an examination; in fact, rarely thought of the rectum being a factor in the case at all. Now all is changed. When we find a patient who has been sick for some time, or who does not respond to medicine, our first duty will be to examine the lower openings and rectify any abnormality we find; and it will not do to ask our patients if they have rectal or sexual trouble, and rest satisfied if they say no. We must feel and see for ourselves. Just now I recall three cases to impress this fact:

No. 1.—A man of 40 years, who for eight years suffered from neurasthenia, was frequently unable to do any work; had had the homœopathic and "regular" treatment without success; when he heard of orificial philosophy he examined his own rectum as well as he could, and thought nothing was abnormal, but on my examining him I found a rectum full of papillæ and pockets, and he almost fainted on my introducing a rectal bivalve.

No. 2.—A manufacturer of Philadelphia, æt. 50, always ailing, now thinking he has consumption, now Bright's disease, now this now that,—you have all had such cases,—goes from one physician to another. I had had two trials at him without a particle of success, when he came again. I then asked if he had piles. "No," said he; "nothing the matter with my rectum." I insisted on an examination, and found in the rectum hæmorrhoids of all shapes, colors, and sizes, and, of course, a contracted sphincter.

No. 3.—A woman of 55 years, several years past her climacteric, who suffers from intense daily headaches; she has been to the best prescribers of both schools without success. She said "her bowels were regular, caused no trouble," and she had not been "torn," although the mother of eleven children. An examination revealed extensive laceration of the perinæum, a cystocele, and a rectal sphincter so contracted 'twas impossible to introduce a bivalve without an anæsthetic.

In examining the male, see that the prepuce is not too long and is freely movable on the glans; examine the prostate, if too large, too small, or sensitive; the calibre of the urethra, the size of the meatus (it should be as large as the urethra); the frenum should be long enough to allow the penis to point directly straight when the prepuce is retracted.

In the female the hood should be free from adhesions to its clitoris. ("The clitoris is a little electric button which, pressed by adhesions, rings up the whole nervous system."—Dr. Morris in *American Journal of Obstetrics.*) The meatus urinarius should be smooth and the urethra freely dilatable; the hymen should not present rough, irritating edges; the vagina should be freely dilatable, and have no congested look; the labia minora should not be too redundant or hypersensitive. The uterus should be small, the cervix firm, and the os patulous. The rectum should be smooth, the rugia converging regularly to the anus from the buttocks; it should likewise be freely dilatable without pain, and the inner border of the sphincter muscle should be free from any roughness whatever.

It would lengthen my paper entirely too much to describe the several operations orificial philosophy has given birth to, and they are described very graphically in Pratt's book and also in the *Journal of Orificial Surgery.*

Before relating cases let me say a few words about the bivalve speculum. This is the instrument on whose merits orificialists claim it is no more dangerous to give chloroform or ether than to give a dose of morphia. It is with this an orificialist professes to resusci tate a partially drowned or smothered person, to relieve a case of shock, or make a newborn babe start up breathing if born asphyxiated.

CASE I.—A six weeks boy with eczema universale; had been under regular care since birth, but the eczema developed at two weeks, and progressively got worse. I treated two weeks with sulph. 30 without other result than that the child did not cry so much. No change in the rash, one mass of sores and crusts. On examination found greatly redundant and tight prepuce. Circumcised, and in less than two weeks the baby was well. Have not seen it since.

CASE II.—Man of 26; had had gonorrhœa for over a year; had been treated by advertising specialists in Philadelphia, but although the discharge was only trifling, he felt bad all over. Nux vomica brought the discharge back as though in a fresh case, and cann. sat. cured the case with the exception of a drop or so of gleet in the morning. An examination disclosed a narrow meatus. I slit it up, and the gleet disappeared in a week, and now, six months later, has not returned.

CASE III.—A cretin of 3 years old. Cretinism began to develop at six months; never has walked or talked, shows no sign of intelligence; has a most remarkable macro-glossis, being unable to get the tongue entirely in the mouth; only four teeth; bowels always constipated, intense and long-continued straining only resulting in the passage of hard balls. He had an elongated prepuce and a contracted rectal sphincter. I circumcised him and dilated his anus. This being my first case of rectal work, I feared to go too far with the dilatation, and knew nothing of pockets and papillæ save that there were such things. The boy became somewhat brighter; for about six weeks his bowels moved regularly without straining; he cut eight teeth and attempted to walk, but always needed help; later he went back to his old condition, and on the 1st of June I again had him anæsthetized; found the anus as tight as before. I pretty thoroughly dilated it and removed five large pockets from the rectum. As yet (June 20th) I can see no benefit from the last operation.

CASE IV.—A girl of 8 years; mother died of phthisis; child has all her life had asthma in paroxysms, many of them so severe as to make her folks despair of her recovery; has latterly been getting worse and the attacks more frequent, some lasting two days and nights, during which she could not lie down, but had to be propped up in some one's arms. I treated her to the best of my ability for over two years with no success. On examining, found tied down clitoris; this I freed under an anæsthetic, and thoroughly dilated the rectal sphincters. The operation was on March 6th, since when she has not had a suspicion of asthma, but is altogether healthier than she ever was, and has gained decided flesh.

CASE V.—Boy, æt. 9, always has had headaches, two to three attacks a week, during which he had to go to bed. This boy is a runt in a family remarkable for large size. I had treated him several times during the last four years, as had another homœopath, and he also had been under the care of the best "regular" of the neighborhood, with no help from any of us.

I found a greatly redundant prepuce with a pin-hole opening. Circumcised, snipped the frenum, which was short, enlarged the meatus, which was contracted, took 3 papillæ out of and dilated the rectum. He still has headaches, though not so often as once a week, and they are lighter than they were.

CASE VI.—Girl of 3 years, very changeable and with imperfect control of the urine; bowels always constipated. The clitoris was completely covered and bound tight with its hood; this I freed with the use of cocaine but could not get a chance to examine the anus. The mother did not keep the clitoris free, and it has healed, with some adhesions, though not quite so bad as before. For a couple of weeks she appeared no better, and developed a profuse leucorrhœa, for which and other symptoms I gave her sepia 30, and now her enuresis has left her, and she is as sweet a little girl as one ever sees.

CASE VII.—Boy of 5 years. This is the case I cited when mentioning the changeableness of chronic disease manifestations. He began with an eczema which would yield nothing to medicine, and which later developed into an asthma. Prepuce was very long, though loose enough to retract readily; some slight adhesions; broke the adhesions, amputated the redundancy, removed pockets and papillæ and dilated the rectum. The result has been encouraging. The boy still has some asthma, though, his parents say, trifling compared with before the operation. One peculiarity in this case is the difference in breathing while asleep. Before the operation, his breathing was so labored as to be audible all over a large room. Now, it is noiseless.

CASE VIII.—Married woman of 23 years, with dysmenorrhœa of eight years' standing, had been carefully treated with homœopathic medicine for three or four years without result; appears to have no abnormality of the clitoris, vulva, vagina, or uterus, but found a constricted anus. She would not allow an operation, so I got Pratt's rectal plugs, which she uses rather irregularly. Her May period was less painful than usual after the use of the plug a week or ten days, and her June period came without pain. The first she knew of it was feeling the presence of the flow; afterwards she experienced some distress, but nothing as compared with her usual suffering.

To recapitulate, I report:

One eczema, cured; one gleet, cured; two asthmas, one radical cure and one greatly benefited; one cretin, no result; one chronic headache, alleviated; one dysmenorrhœa, benefited; and one enuresis, cured with the help of medicine. The eneurisis was the only case to receive medicinal treatment after the operation; the others were purposely left to the "*Vis Medicatrix Naturæ*," after the sources of irritation were removed, that the value of the orificial work might be properly tested.

In conclusion, Hahnemann has given us THE law of healing, *Similia Similibus Curantur*. Pratt has supplemented this with his dictum: "Perfect orifices give perfect health;" with these two divine laws revealed to us, medicine is lifted from an art to a science. Another name will yet be added to make the trio. Whose shall it be? It will be the name of the discoverer of the mode of simplifying the selection of the similimum.

Compliments of the Author.

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ANÆSTHESIA BY NEBULIZED ETHER.

BY

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PHILADELPHIA, PA.

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ANÆSTHESIA BY NEBULIZED ETHER.*

BY

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A SURGICAL discussion would hardly be complete without considering the subject of anæsthesia. Next to the surgeon in charge the position of trust and responsibility at an operation falls upon the anæsthetist. Indeed, it is a question whether his, summing up a year's work, is not the one of greater responsibility; for no matter how insignificant the operation demanding of the surgeon but little skill and absolutely no risk *per se*, yet, if requiring an anæsthetic, the patient must be subjected to all dangers, or nearly all, from the anæsthetic that would attend a capital operation. Statistics show the number of deaths due to the anæsthetic to be quite as great before the operation has commenced as after the initial step of the operator. Let no one, then, who is called upon to give an anæsthetic, however trivial the operation, forget that into his hands is placed the responsibility of guiding a life as close to the abyss of death as it can go and yet be recovered. Since the discovery of liquid anæsthetics the method of administration has been a subject of great importance, and, as a result, the methods of administration are numerous. Hardly a year passes that does not produce a new apparatus for giving ether. Generally speaking, methods are divided into "open" and "closed," the former best illustrated by the Allis inhaler, and the latter by the Clover inhaler, so popular in England.

I need hardly mention the fact that the first step necessary in the administration is the conversion of the liquid anæsthetic into a gas or gaseous form, and that this must be done mechanically, or, in other words, the change is physical and not chemical. The simplest and most efficacious method of accomplishing this should be the ideal way of administering ether. Dr. W. T. G. Morton, who first publicly produced anæsthesia with ether for a surgical operation, employed a glass globe, fitting the face tightly, with a sponge saturated with ether at the top, and with two tubulous openings, one for the admission of fresh air and one for the escape of the expired air, both governed by valves. His patient was nearly asphyxiated, and a careful investigation at the close of the operation revealed the fact that the valve governing the admission of fresh air had failed to work; hence the asphyxiated condition of the patient. The failure in this case for a more or less complicated apparatus to work called at once for simplification and improvement. Since then, as before stated, the methods of giving ether have been numerous, running through all forms, from the simple towel cone to an elaborate apparatus requiring hot water to vaporize the ether, thence conveyed by a rubber tube into a rubber bag reservoir, and administered by means of complicated valves, etc.

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* A preliminary paper.

For the physician who gives ether but once or twice a year the open method, by means of the Allis inhaler or the towel cone, is by far the simplest, most convenient and safest. For hospital work such a method as devised by Dr. Packard, of Boston, is the most complete, and certainly most nearly approaches the ideal. But for the surgeon, who must operate at a moment's notice in a private house, who may be called suddenly some miles into the country, where necessary articles are often wanting, let alone conveniences, there is yet a demand for an apparatus whereby anæsthesia may be produced quickly, economically, and, at the same time, with safety. An apparatus that does not require an expert to manipulate, I was about to say, but will refrain from that, for I certainly believe in the proposition advanced by Dr. Macewen that an anæsthetist *must* be an expert, and should be licensed by law; at any rate, an apparatus not requiring the originator to successfully work it.

Taking Dr. Packard's method as the ideal, I have, with suggestions and assistance from others, been trying to work out this problem of an economical, safe, easily portable, and uncomplicated apparatus for giving ether. Observing the completeness with which the Globe nebulizer converted solutions, whether alcoholic or oily, into a perfect nebula, I concluded it could be applied to the rapid conversion of ether into the proper gaseous form required for inhalation. The nebulizer does not create a spray; it forms a very fine vapor, easily carried through a tube to some form of mask for inhalation by the patient. So far my experiments have been with the mask used by Dr. Northrop with his chloroform and oxygen apparatus. While answering the experiments satisfactorily enough to convince me that nebulized ether was a success, yet, through criticisms, I have been forced to devise some other form of mask or inhaler. These criticisms have mainly been: 1. The patient is required to rebreathe too much carbonic acid gas, thus producing an unpleasant degree of cyanosis, though I am convinced of no danger; 2. The uncleanliness of all rubber inhalers, and inability to satisfactorily sterilize them.

To uphold my opinion that the rebreathing of the expired air, especially when freshened to a certain extent by compressing the rubber bulb of the nebulizer, is not of great danger to the patient, I will quote from Dr. Turnbull's work on anæsthesia, page 353, on the subject relating to the inhaler devised by Dr. Parkinson:

"The rebreathing of the ether-charged air, with a small atmospheric mixture, is the main point on which the superiority of the inhaler rests. That it is not in any sense a defect or danger, practical experience of several years has proved, and in support of the position I will quote three opinions:

"Pridgeon Teale, writing in the *British Medical Journal*, says: 'The patient breathes the same air over and over again, thereby economizing the heat of the air passages, economizing ether, and enhancing the effect of the ether by partial asphyxia.'

"Mr. Woodhouse Braine, Lecturer on Anæsthetics at Charing Cross Hospital, states that in using the inhaler he frequently removes the sponge, and maintains anæsthesia by allowing the patient to breathe into and from the rubber bag. He says: 'It may be urged against this method that the patient rebreathes the carbonic acid of his own expired air—and this is true; but from the length of time I have employed this plan, and from never having seen any deleterious results from it, I do not attach any importance to the objection.'

"Mr. Ormsby, in reply to an inquiry, has kindly written: 'I believe that carbonic dioxide, in a diluted form, assists the ether as an anæsthetic, while the rebreathing of the vapor warms it, so that it is more readily tolerated by the patient.'"

Dr. Parkinson concludes by saying: "In my own experience, which has been extended and considerable, I have found no disadvantages arising from the alleged asphyxiation."

The ability, skill and experience of the men quoted is beyond question; yet to overcome the objection cited and still have a simple apparatus, is certainly a desirable point to gain. The mechanism of Dr. Packard's apparatus in this respect is quite complete, but constantly exhausting the mouth-piece demands more aerated ether or fresh air, according to the patient's condition, and this necessitates his rubber bag reservoir, which detracts from the simplicity.

The second objection, regarding the uncleanliness and inability to properly sterilize any existing form of closed inhaler, needs no comment. They are all more or less dirty, and none of them can be satisfactorily sterilized.

I hoped to be able to present a cone to-night answering, in part, these criticisms; but having been repeatedly disappointed by the instrument-maker, I can only show a rough working model, and, in consequence, can only theorize, for a practical application has been impossible.

The idea embodied is a silk bag, supported by a nose piece, and fitting closely about the face and under the chin. It is detachable, and each piece can then be sterilized independent of its fellow. The silk is durable, will permit of thorough sterilization, and should last a reasonable length of time. The nose piece, besides supporting the cone, contains an inlet for the anæsthetic, and also an inlet for air, governed by a sliding valve, this to be opened or closed by the anæsthetist, as the patient's condition may require. The silk bag is not absolutely air-tight, as can be readily demonstrated by forced expiration when closely applied to the face. Basing my theory on the law of diffusibility of gases, that a warm gas is more diffusible than a cold gas, is it unreasonable to claim that a great part of the carbonic acid gas exhaled by the patient, hot from the lungs, is diffused through the meshes of the silk, while the ether vapor, fresh from the nebulizer, is entirely retained? The quantity of air exhaled at each expiration is but little greater than the quantity of nebulized ether forced in with each complete compression of the bulb; and if the expired air, by means of the greater diffusibility, does escape in part, the patient is only required to rebreathe a small proportion of the expired air, and this cannot be dangerous. By this partial elimination of one of the disadvantages, we have left the advantages of a closed cone, viz.: 1. The inspired ether vapor is somewhat warmed, thus preventing a constant chilling of the respiratory tract and lessening the irritation. 2. The economizing of the quantity used. 3. By confining the ether vapor, the disagreeable odor is prevented from penetrating the room, or, as is often the case, the whole house. Ether can be given in this way, and hardly detected by the odor left in the room.

It is also a belief on my part that the danger of administering it, in the presence of a light, will be greatly reduced, if not entirely done away with. The question of economy, both as to time and the quantity of ether used is an important one, and by this method, we are ahead of any statistics I have been able to find regarding the administration of ether. In cases already tried (43) in number, the results are as follows: Average time required for relaxation, $5\frac{9}{43}$ minutes; average time of administration, $34\frac{29}{43}$ minutes; average quantity used, $2\frac{9}{43}$ ℥; greatest period required to relax patient, 10 minutes; shortest period required to relax patient, 2 minutes.

The reaction as a rule is very quick, on an average, much quicker than from ether by the open method, and the sickness due to ether much reduced. There has been absolutely no shock in any of the cases reported, and no stimulation whatever required.

The strain on one hand, by constantly working the bulb, might arise in the form of an objection, but I have not found it so. The bulb is very light, easily compressed, and constant pressure, as the anæsthetic state progresses is not necessary, slight periods of relief being obtainable. The administration is begun very slowly, the merest trace of ether being desired, and gradually as you find the patient will tolerate it, increase the quantity; a little experimenting with the tube before one's nostrils, will answer more satisfactorily this question, of, How fast at first? As anæsthesia progresses, the vapor is increased until complete relaxation is obtained, when it can be somewhat decreased. Great care, as to the exact condition of your patient must be exercised in the early stages, for a slight decrease in the flow of the nebulized ether and a few breaths of fresh air will greatly reduce the condition of anæthesia, and inconvenience the operator. I believe a point in favor of this apparatus, is the fact that every bit of ether given is a voluntary act of the anæsthetist. There is no automatic flowing of the anæsthetic, every time the bulb is squezed, the anæsthetist is warned that he is giving the anæsthetic, and that warning should be quite sufficient to keep him ever on the alert for contra-indications of its furtherance. I wish publicly to thank several of our hospital staff, who have been interested in this subject, for helpful suggestions, since beginning the experiment, and especially to thank Dr. Van Lennep, for valuable criticisms and for the opportunity on several occasions to administer it to his private patients, proving its applicability in that respect.

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THE INFLUENCE OF HOMŒOPATHY UPON SURGERY.

BY WM. TOD HELMUTH, M. D., NEW YORK.

Of the names most distinguished in the records of surgery the majority are those of great chirurgical artists, rather than of scientists. Thus, when passing in review the illustrious names in surgical literature (with a few such exceptions as Paget and Billroth) we find, that it is the operating surgeon, the bold, fearless, dexterous and ready man, who acquires great reputation as a surgeon; and it is the records of these brilliant operations, that confer upon him enduring fame.

Yet the surgeon who cures his cases, by the internal administration of medicine, given according to fixed and definite scientific laws; who, casting aside his instruments and mechanical appliances, can remove a cancer, or cure a hydrocele, or dissipate a fibroid, or cure a fistula by medicinal agencies, is actually a more scientific man, and a more thorough surgeon, than he who brilliantly operates, or dexterously manipulates.

In order to limit the scope of this paper to its proper field of inquiry, it is proposed to avoid the discussion of operative surgery excepting when necessary for comparison, and all mention of recent surgical performances, no matter how successful or brilliant. The object, at present, is mainly to show, that, since Homœopathy has been introduced to the medical profession, it has exerted a definite and controlling, and in some instances a very remarkable power over the so-called surgical diseases.

Perhaps, the majority of the members of our school are not aware of the array of facts that might be cited to the credit of homœopathic therapeutics; but to those who care to make the inquiry the facts will show, that since Hahnemann in 1796 published his essay "On a new principle for ascertaining the remedial powers of medicinal substances," to the present year (1876), cures of many surgical diseases have been effected, which, if collated and properly arranged, would fill volumes.

In a paper of this kind, therefore, it cannot be expected, that mention should be made of all, or even a majority of the homœopathic cures of surgical disorders. For this reason, the author has thought best to select but two of those affections generally considered incurable by allopathic authorities, and to ascertain if, in these diseases, there be any superiority of our own, over the older methods of treatment; to consider the facts as briefly as possible; and finally to present for reference statistics of a few of those surgical affections, which have been reported from time to time, in our periodicals, as cured by homœopathic medication.

Having narrowed the limits of our investigation to the diseases in question; having selected them as a test by which to demonstrate the beneficial effects of homœopathic treatment in surgical diseases; the matter at once becomes one for nicety of judgment and discrimination. The end to be attained is one of no mean import to our school; the vantage ground, if gained, gives a superiority so great, that its occupancy must not be pronounced, until the position is certain and secure.

To this end therefore, the chief points to be ascertained are: That the diagnosis of each case, as far as can be learned has been correct; that the record of treatment is reliable; that the persons making such records have not had their judgment biassed by mistaken enthusiasm, too implicit reliance in the action of drugs, or desire to make an effective report; and finally to discover whether, in the old school literature, cures of equal importance can be adduced.

Again, it must be born in mind, that many, even the most dangerous, surgical diseases, have spontaneously recovered. Aneurisms and ovarian tumors have been cured by the vis medicatrix naturæ; tremendous abscesses, opening into the intestines, have saved life; dislocations and uterine displacements have been reduced by accidents.

It is by giving to these points that consideration which justly belongs to them, that homœopathy will receive its fair share of honor, and only that which legitimately belongs to it; for presumptuous assertion, not substantiated by facts, must result in discredit and downfall.

In my own surgical practice, I have not effected very many cures of well developed surgical diseases, by the internal administration of homœopathic medicines. Perhaps in the majority of cases, I have not given the medicines sufficient trial, because I have known that the knife, ligature, or other mechanical means, offered more speedy, if not more permanent relief; and perhaps I have not searched with sufficient care for the appropriate homœopathic medicine. That I have, in many instances, tried to accomplish such favorable results, and after months of perseverance been obliged to resort to operative surgery, is a fact that I must proclaim at the outset. On the other hand, I have seen some remarkable cures of most severe surgical affections, which have convinced me that the properly applied medicines will act; and that many of the reports of such cures in our literature are worthy of attention and study. Without further delay therefore I shall direct attention to cancer.

Professor Gross, speaking of the curability of this scourge, says: "All internal remedies of whatever kind and character, have proved unavailing. The vaunted specific of the empiric, and the enchanted draught of the honest but misguided enthusiast, have alike failed in performing a solitary cure; and the science of the nineteenth century must confess with shame and confusion, its utter inability to offer even any rational suggestion for the relief of this class of affection." * Scarcely less strong are the words of Mr. Moore,† who writes: "No remedy is at present known to have a specific power of eradicating cancer, of neutralizing its taint, or altering the nature

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* *System of Surgery*, Vol. I , p. 257.

† *Holmes System of Surgery*, Vol. I., p. 593. London, 1871.

of its growth. Scarcely less, in our present ignorance of the causes from which it springs, are we in a position to rely with confidence on any means for obviating its outbreak."

M. Thomas Bryant says, in his late work:* "The general treatment of cancer resolves itself into the improvement of the general health, and the nutrition of the body by hygienic means; good nutritious diet, and tonic medicines. No medicine has any special influence on the disease."

It is not necessary to multiply quotations on this subject from the allopathic authorities of to-day; and I may remark, that the three that have been given, were not selected on account of any peculiar force of expression, but were those that first came to hand in consulting the works for the facts in the case.

We may turn then with some feeling of satisfaction to our own literature; although, at the outset, we must regret that while throughout our periodicals there are many cases of "cancer" reputed cured, in very many of these, the specific variety of the disease is not diagnosed. Cancer is, by the majority of surgeons, considered as a generic term, and has several important species. To group the scirrhus, medullary or encephaloid, melanotic, epithelial and osteoid, as "cancer," and in the report of a case to omit to diagnose the variety, is not sufficiently precise; leads us astray in our ideas; has a tendency to throw distrust upon our records, and gives us but little information for the treatment of subsequent cases. For instance, in a "Report of the Homœopathic Institute of Leopoldstadt,† there is a case of "cancer of the womb." The variety of the disease is not mentioned, whether epithelial, scirrhus, vegetating epithelioma, or other. Bryonia removed the severe pains and Belladonna was given for the uterine tenesmus; "the discharge diminished, and became less fetid, sleep and moderate appetite were established, and the patient felt so much stronger, that she was enabled to undertake a journey." Such a record really counts for nothing in the establishment of the superiority of homœopathic treatment. Many such ulcerations are temporarily arrested by hygienic influences, and the tonic system of treatment, as it is called, of the Old School. This case is merely selected, as one from many, that are found in our literature, and can only be accepted as indicating that relief for a cancerous ulcer was obtained. So again Dr. Bayes* speaks of a case of "cancer of the lip" (probably ulcerating epithelioma), which was arrested; cancer of the left breast, in which the tumor had almost entirely disappeared; and an "open cancer of the left breast," which from the size of a half crown diminished to that of a pea.

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* *The Practice of Surgery*, p. 738, London, 1872.

† *British Journal of Homœopathy*, Vol. XIX., p. 144.

These and many cases that might be cited prove conclusively that there are certain medicines employed homœopathically that can arrest "cancerous" formations, but it is, as before stated, much to be lamented, that more precise diagnoses have not been given in each case. The chief among the medicines referred to in Dr. Bayes paper is Hydrastis can. I have used it frequently with excellent success; and from cases of my own, may affirm, that its efficacy in cancer is chiefly in the epithelial variety; also that its action in other forms of the disease is correctly indicated by Dr. Bayes, who says: "My experience has thus led me to infer, that the remedial sphere of Hydrastis is confined to the arrest and removal of scirrhus in its early stage and chiefly when its situation is in a gland or in the immediate vicinity of a gland."

We have other reports, however, which are more conclusive. The remarkable case of Field Marshal Radetsky † is one that it is fair to set down as a cure of encephaloid of the eye. So also we find that Dr. Hughes ‡ has a most excellent case, quoted from Petroz, in which a woman under the care of Dr. L. Herminier had a suspicious ulcer of the tongue, involving the parts deeply. The doctor distrusting his own diagnosis, sent her to Professor Mardolin, who returned the following: "Cancerous ulcer, no chance of cure but from operation; and this is impossible, for the base of the tongue is involved." This case, which was probably one of epithelioma, was cured by the Hydrocyanate of potassa $\frac{1}{100}$ of a grain at a dose, repeated every fourth day. Eighteen years afterward there had been no relapse.

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* *British Journal of Homœopathy*, Vol. XIX., p. 150.

† *British Journal of Homœopathy*, Vol. I., p. 147. Being a series of letters which appeared in the *Hom. Zeitung*, July, 1841, by Dr. Hartung.

‡ Therapeutics, p. 219.

Stapf[*] reports a most interesting case of fungus hæmatodes oculi, which was completely cured. Belladonna^{30} removed the excessive photophobia and inflammation in six days: Calcarea carb., cleared the cloudiness of the cornea; Lycopodium^{12}, Sepia^{36} and Silicea^{12}, removed the fungous growth. The cure was complete.

Muhlenbein[†] gives also a case of the same disease, so diagnosed by several allopathic physicians and an experienced surgeon, in which Belladonna^{36}, one drop at intervals of a week, for four weeks, together with Nux vomica, Euphrasia and Aconite, completed the cure.

Dr. von Vietiunghoff[‡] among his cases, which will be found, in the annexed statistics, has recorded a case of encephaloid of the breast which is interesting. The pain was relieved by Belladonna^{3} and Bryonia^{3} in alternation. Phosphorus^{30} and Hepar^{30} also in alternation, materially improved the character of the discharge; Arsenic^{30} caused separation and discharge of tumor. After persevering with the latter for several months, the cure was perfected.

Other cases of this variety (encephaloid) of cancer are found throughout our literature.[§]

Dr. G. M. Pease,[‖] in a short and practical paper on "Cancer," mentions three cases, in two of which operations had been performed; and these are merely noted here, inasmuch as being under the carbolic-acid treatment, one was alive five years, the other four years after operations had been performed. The third, however, a case of *hæmatoid cancer*, located on the right cheek, and extending to the ala of the nose, was cured by carbolic acid internally and externally with no return in three years.

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[*] *Archiv fur die Homœopathische Hilkunst*, Vol. VII.

[†] *Loc cit* (both these cases are recorded in Dr. Jean's *Homœopathic Practice.*)

[‡] *British Journal of Homœopathy*, Vol. XVII., p. 53.

[§] *British Journal of Homœopathy*, Vol. XXVI., p. 658. Dr. Quin's case in the *Annals*, Vol., I. p. 177, quoted by Hughes.—Fungus hæmatodes, Dr. Hughes, *British Journal of Homœopathy*, Vol. XXVIII, p. 795.

[‖] *Transactions of the American Institute of Homœopathy*, 1872, p. 390.

Dr. A. G. Beebe * gives a case of melanotic cancer, cured chiefly by Carbolic acid and Sanguinaria, the former for the specific disease, the latter for gastric disorders. During the first three weeks of treatment, the tumor was reduced to the size of a pin's head, and all suffering relieved. Ultimately there was complete recovery.

Dr. Leon † relates a case of *carcinoma uteri* which had not recurred after three years. The medicines were: Arsenic., a dose night and morning for one week; Conium' night and morning for one week. These medicines were continued four months in alternation, with an occasional dose of China as an intercurrent for hæmorrhage.

We must turn now to the consideration of Dr. Bayes' essays,‡ written especially with reference to the use of Hydrastis can. in the treatment of cancer; and for brevity's sake will merely introduce his table appearing at the end of his second paper. He also includes in these statistics, Dr. Bradshaw's § cases offering additional testimony to the beneficial effect of the "Golden seal."

These papers certainly show (although the percentage of cures is small) that this medicine does possess more or less influence over the disease; but when the question arises as to the comparative efficacy of homœopathic treatment combined with surgical operations, I think it may be shown that a better result is obtained with the knife, than without it.

Of the following twenty-three cases, six are diagnosed as scirrhus; thirteen as cancer (ulcerated or otherwise); one as fungus hæmatodes; and three as cancerous tumors. The results of the treatment are as follows: three were cured; in six others there was "improvement;" in three "arrest of development;" and in six relief from pain was noticed; while again in five others "no effect" was produced. It would be interesting to the operating surgeon to ascertain how long the three cases remained cured; and, if in any there was a recurrence of the disease, at what time the symptoms were developed. Until this point be clearly settled, the vexed question as to the expediency of operative interference with the knife, cannot be satisfactorily determined. Few operations for cancer, especially of the lip and mamma are not followed by a more or less complete exemption from the disease, from one, two, or even three years; but even then the conscientious surgeon would scarcely be justified in announcing a complete cure of the affection. This phase of our subject brings us directly to the consideration of the cases of Marsden and MacLimonts,* in which the "enucleation treatment" was adopted. In the ten cases they record the subsequent histories of the patients have not been given; obviously from the many difficulties surrounding dispensary and hospital practice. In placing these

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* *Medical Investigator*, Vol. XI., p. 549.

† *United States Journal of Homœopathy*, Vol. I., p. 41.

‡ Hydrastis can. in Cancer, *B. J. H.*, Vol. XIX.; also *loc cit.* Vol. XX., p. 1.

§ A Few Remarks on Hydrastis, *B. J. H.*, 1861, Vol. XVIII., p, 598.

Dr. Bayes' Table.

Case	Age.	Sex.	Disease.	Location.	Result.
1	41	Female.	Scirrhus.	Breast.	Cured.
2	42	do.	Tumor.	Ovary, right.	Relieved.
3	46	do.	Cancer.	Right breast.	Much improved.
4	77	do.	do.	do.	Arrested.
5	25	do.	Scirrhus.	Cervical glands.	Much improved.
6	55	do.	Hard nodulated tum.	Dorsum of foot.	Almost cured.
7	45	do.	Scirrhus.	Breast.	Pain relieved.
8	50	do.	Ulcerated cancer.	Left breast.	Greatly improved.
9	37	do.	Cancer.	do.	Cured.
10	48	do.	do.	Right breast.	Pain relieved.
11	38	do.	Tumors (cancerous).	Both breasts.	Much improved.
12	48	do.	Scirrhus.	Os uteri.	No effect.
13	56	do.	Cancer—ulcerated.	Os uteri, vagina and rectum.	do.
14	42	do.	Scirrhus.	Uterus	do.
15	60	do.	Fungus hæmatodes.	Right thigh.	do.
16	22	do.	Cancer.	Left breast.	Cured.
17	50	do.	Ulcerated cancer.	do.	Relieved.
18	50	Male.	do.	Lip.	Arrested and improved.
19	40	Female.	Carcinoma.	Left breast.	Relieved.
20	58	do.	Scirrhus.	do.	Arrested.
21	40	do.	Ulcerated cancer	Os and cervix uteri.	Slight and temporary relief.
22	60	do.	do	do.	No relief
23	37	do.	do.	do.	Arrested

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* *B. J. H.*, Vol. XXI. p. 616.

cases in this essay, they must be considered in a measure operative; as Nitric acid, Chloride of zinc, Hydrastis in powder and tincture, and Stramonium ointment would scarcely be called by the pure homœopathicians, homœopathic medicines, especially when in combination and applied locally. Yet, the success of these applications may in a measure be attributed to constitutional treatment with medicines exhibited according to the law of Similia; and such being the case, does not the operator, whether with knife or caustic, who, throughout the entire duration of the case (before, during and after operative measures), prescribes homœopathically for the presenting symptoms, possess a most decided superiority over those who rely chiefly on hygienic and general constitutional treatment? In other words, does not homœopathy even here, exercise a beneficent influence upon operative surgery? The answer may be given in the affirmative.

In June, 1873,* I reported to the New York Homœopathic Medical Society, fifty cases of cancer, and since that period have operated with knife and the enucleating paste on fifteen others. I am glad now to give further results. It is needless to say that the patients have, always, while under my supervision, been taking those homœopathic medicines which appeared indicated. In order to be more accurate, I shall omit mentioning any of the more recent cases; because a sufficient time has not elapsed to convince me of their cure. I will merely state, that five of the fifteen have died between the date of my last report and the present. One of the cases was scirrhus of the breast; one advanced epithelioma of the penis; one scirrhus of the parotid, in which, I may say, that I think electrolysis did decided harm; and two, encephaloid of the mamma. Of the fifty cases I then placed upon record, five of the epithelioma cases are now alive; in one instance, eleven years having elapsed since the treatment; in another, eight years; and both of these were locally treated by Marsden and MacLimont's paste. Another has lived four years, and is at present enjoying good health. Three years have elapsed since another was operated upon, the patient being well; and the fifth also has survived five and a half years. A sixth case might also be reported as cured, as the patient died of gallstones two years after the operation. Of the encephaloid of the mamma subjected to the knife, four survived; the longest time elapsing being four years. Two have died. Of the scirrhus, of which twelve were operated upon with the knife, one is alive seven years after; one, six years; one, five years. The others I have been unable to hear from in time to report in this paper; although I have made many attempts, by letter and otherwise, to ascertain their condition.

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* *New York Journal of Homœopathy*, Vol. I., p. 146.

These reports have been made as concise as appears consistent with the importance of the subject. Many quotations of cures have been omitted, which may be found in the statistics at the end of this paper; but it is to be hoped that sufficient facts have been given to prove, that in a disease, considered beyond the reach of medicine by the Old School, well directed homœopathic medicine can and has effected cures; and that when operative interference becomes necessary, the beneficial influence of homœopathic medication cannot be denied. It may entirely eradicate the cachexia, or postpone the recurrence of the disease. It would be ridiculous, however, even with this knowledge, to make the broad assertion, that all cases of cancer may be cured; or, that return after extirpation is never to be expected. The facts remain, that cases are and have been cured, and such facts encourage every surgeon, in his endeavor to select the proper homœopathic medicine, and avoid, if possible, the performance of operations; and still further, if the knife is deemed necessary, or the caustic treatment seems advisable, ne has certainly in the homœopathic Materia Medica, agents which will assist him to prevent recurrence and alleviate suffering.

Looking at the matter with these proofs before us; endeavoring to view the testimony as impartially as we are able, and referring to the written opinions of the best allopathic authorities of to-day; it may safely be claimed that homœopathy has exerted a most beneficial influence over this department of surgery, whether the knife be employed or internal medicines exhibited.

OVARIAN TUMORS.

In the treatment of non-malignant tumors, homœopathy can show a decided improvement over the methods of cure which are generally adopted by Old School practitioners; indeed the majority of these formations have to be submitted to the knife in allopathic hands.

When the members of our school shall have become better acquainted with the physiological action of drugs, and with the *histological* conditions, which call for the exhibition of certain medicines, as lately pointed out by Dr. von Grauvogl; when "organopathy," as Dr. Sharp has it, has been more carefully studied; there can be no doubt that much greater success will be obtained than heretofore. But here the question arises as to the most rational method. Is the knife, when employed for the removal of smaller non-malignant tumors, located in parts not especially dangerous, to be preferred to the use of internal medication? In considering this question, it must be remembered that in operative surgery, even in the minor operations, there are always certain risks to be encountered from anæsthesia and tetanus, which can not be adequately counterbalanced by the length of time, and slight inconvenience to the patient, required for internal medication. Moreover, should the latter fail, recourse may then be had to operative surgery. Therefore, even in the non-malignant, innocent, bland, or benign growths, preference should be given to medical treatment. I am convinced of this fact the longer I live, and am very willing to plead guilty to having, on many occasions, "cut out" a tumor immediately, without giving internal medication any trial whatsoever; although, in many, very many instances, with the most satisfactory results. In passing to the consideration of those tumors in the treatment of which the least satisfactory results are acknowledged by the allopathic school, viz., *cystic tumors of the ovaries;* it may be remarked that adeoma of the breast, fibroids of the uterus and other parts, bony tumors, and even aneurisms are reported cured by homœopathic medicines (*vide* statistics). In speaking of the latter, I exclude those cases treated with Bromide of potash, Gallic acid and Iron, which have been reported from time to time, because I believe these may be better understood, when the true physiological action of medicines is more accurately ascertained, and refer only to cases which are reported by those who certainly have, or ought to have, sufficient skill to make a correct diagnosis.

The cystic tumor of the ovary, is acknowledged to be beyond the reach of allopathic medicines, and such acknowledgement comes from the highest gynæcologists at home and abroad.

Professor Simpson * thus speaks to his students: "For my own part, let me state at once, I have no belief that any drugs or medicines *ever removed a cystic multilocular growth or dropsy of the ovary ;* I would almost as soon expect to remove by them, a foot or a hand, or any integral part of the normal body. In any exceptional cases, where internal medicines have appeared to diminish ovarian tumors, you may rest assured that a primary error in diagnosis has been committed; and, that the supposed ovarian growth was a meteorismic tumor of the abdomen or ascites, or a specimen of some of those other maladies of a curable type, that are often enough mistaken for ovarian disease."

Thomas † writes, "After a careful search through the records of the subject, one is forced to the conclusion that an extremely small number of cases exists, substantiating the *possibility* of the accomplishment of absorption by these means."

Peaslee,‡ whose scholarly work is without doubt the most carefully and exhaustively prepared of any on this subject after collecting eleven cases, speaks thus: "Admitting, indeed, that they were actually cures by medication (as I *do not think them to be*), we must then offset these eleven, against the many thousands of cases in which all medical treatment has utterly failed. . . . *There is no known remedy which can be at all relied upon for the cure of ovarian cysts.*" It is unnecessary to go further—space forbids—but attention may be called for a moment to the expression "no known remedy," in the latter quotation. It will be observed that the singular number is used, and it is a "key-note" to the reasoning of the allopathic physician. To designate a disease as an "ovarian cyst," and set down opposite thereto a remedy for it, would be ridiculous indeed. Herein lies the advantage of the homœopathic physician, that he prescribes for the totality of the presenting symptoms in each particular case, changing his medicines as the symptoms vary, and thus is enabled to effect a cure.

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* *Clinical Lectures on Diseases of Women*, p. 237.

† *A Practical Treatise on the Diseases of Women*, p. 667.

‡ *Ovarian Tumors : their Pathology, Diagnosis and Treatment*, p. 193.

In 1855, I reported a case of ovarian cyst which was cured chiefly by Apis mel.; other medicines being given from time to time, as the symptoms indicated. In those days comparatively little was known regarding these tumors, but I believe this to have been a genuine case and a genuine cure. I have lately known of another case, in which I was consulted, and which is really so interesting that it gives me pleasure to give it in full. This, for several reasons: 1. Because it has never been published; 2. Because I know there was no mistake in the diagnosis; 3. Because the pressure of the fœtus did not cure it, as is suggested in other somewhat similar cases; 4. Because several tappings were resorted to at different times.

The case occurred in the practice of Dr. Baldwin, of Englewood, who has furnished me the following letter, at my request:

"Dear Doctor: I first saw Mrs. H. J. D., aged 28, during confinement, September 18, 1872. Delivered of a healthy child, without any difficulty. When I came to bandage her, found her still as large as at full term, from dropsical effusion. This was the first intimation to herself or her physician that there was anything abnormal, whatever pain or discomfort she had suffered being attributed to the pregnancy. In consultation with Dr. McVickar, of New York, and Dr. Banks, of Englewood, the case was diagnosed 'ovarian dropsy.'

"On October 20th following, with Dr. Banks, I removed, by ordinary paracentesis, with trocar in median line, five and a half gallons of fluid, thicker and darker than I have commonly seen in ascites. So highly albuminous that heat and acid rendered it semi-gelatinous. Prescribed Apis, and in a short time she recovered her usual health, without immediate return of dropsy.

"About August 1, 1873, the patient again complained of stinging, burning pains in region of right ovary, with tenderness on pressure and motion, with cessation of menses. Resumed Apis and afterward, for varying symptoms, Arsenicum, Conium and Platina (also Phytol.). The abdomen again enlarging, examination revealed both pregnancy and dropsical effusion; which last accumulated very rapidly till the size of the patient was enormous. For fear of possible miscarriage, I delayed operation till after the seventh month of gestation; and on March 10, 1874, drew off, by the aspirator, four and a half gallons of fluid. Six weeks later, she was delivered of a large, healthy boy, with an entirely normal labor. In the interval between the last operation and her confinement, the fluid had again accumulated more rapidly than ever, and continued to do so with constant stinging, burning, sore pains, until the 21st of August, when nearly four gallons of fluid were again removed by the aspirator. The effusion, however, continued, and, in consequence of a severe cold, a general peritonitis developed with great severity, and for two or three weeks the patient was in a very critical condition. Recovering from this (Belladonna, Bryonia and Mercur., were the principal remedies used), her condition, about the 1st of January, was as follows: An accumulation of fluid about the same as when I withdrew three and a half gallons; the abdomen being fully as large as in pregnancy at the sixth month. A rapid, irritable pulse, thirst, general prostration, able to sit up only part of the day, loss of appetite, pain and tenderness in right ovarian region, and the water rapidly accumulating. At this time I consulted with yourself with reference to ovariotomy, believing it her only chance. While awaiting your visit, I made one further prescription, viz., Iodine^2 dec., given three or four times a day. Decided improvement was manifested within a week. Pain much relieved, appetite and strength improved, and no increase of fluid, as shown by measurement. Under the continued use of Iodine alone, the improvement was rapid and continuous. Absorption of the fluid took place, and within a few weeks not a trace of it remained. All treatment was discontinued, and on the 1st of May the patient for the first time in a year, was able to resume housekeeping, and has, to this day, remained in perfect health.

"You will have noticed that Hempel quotes a case of cure of an ovarian cyst with Iodine water containing one forty-eighth part of Iodine. One marked peculiarity of my case is its complication with pregnancy, the safety of operation with aspirator during advanced pregnancy (you will remember it was by your desire I used it), and the perfectly normal deliverance.

"*Synopsis.* September 18, 1872.—Confinement and discovery of dropsy.

"October 20, 1872.—Operation and withdrawal of five and a half gallons of fluid.

"August 1, 1873.—Renewal of disease with commencement of pregnancy.

"March 10, 1874.—Operation and removal of four and a half gallons of fluid.

"April 22, 1874.—Confinement.

"August 21, 1874.—Removal by aspirator of nearly four gallons. Renewal of disease, which continued till about the 1st of January, when Iodine was prescribed; and entire recovery by May 1st.

"Very truly, your friend,
"D. A. Baldwin."

In recording this case I may refer to one in my own practice. It was one of simple cyst. There was some obscurity in diagnosis, and I sent her to Dr. Atlee, of Philadelphia, to verify the case. This he did. The lady was pregnant; I tapped her and drew off about two gallons of fluid with the aspirator. She was delivered of a healthy child. The tumor refilled. She was put upon strict diet, and Staphysagria, Iodine, Apis, Bryonia, Caulophyll., were used as the symptoms indicated. I examined her on the 18th of March last, and found but the slightest trace of the tumor.

For further very interesting records of cures, the reader is referred to the remarkable cases of Drs. Black, Hughes, Bayes, Wesselhœft, Miller and others, in the statistics.

It was my intention to select some other cases for examination from diseases of the bones, and especially in enchondromatous affections, showing the action of homœopathic medicine on these tissues; but I find that too much space would be occupied by the recital of individual cases, which can be found properly arranged in the statistics at the end of the paper.

Merely, then, as examples of the beneficial influence that the law of similia has exerted in surgical science, two grave diseases have been selected for comment and comparison. These affections are at the present time acknowledged to be the least amenable to internal medication, by the best allopathic authorities; and yet have been, without doubt, cured in a radical and satisfactory manner by homœopathic treatment. These cures being established, further comment in other individual cases is unnecessary. Reference to the subjoined statistics will give, at least an idea of what has really been effected by homœopathy for surgery, and may serve as an incentive to further trial with homœopathic medicines before the knife is resorted to. This may be bad for the operating surgeon, but good for suffering humanity; it may allow "the art" to languish, but it will elevate "the science." In conclusion I would say that, though for a number of years I have made surgery a specialty, and have been a lecturer, teacher and writer thereon; yet, until I actually commenced looking into the subject of this paper, I was unaware of the great good homœopathy has accomplished. The result has done me service in many ways. It has inspired me with new hopes for the future of homœopathic surgery; it has strengthened my faith in the action of dynamized medicines, and has opened to me a wider field of research and inquiry. And I hope that it may stimulate others in a similar direction.

ANEURISM.

Aneurism, abdominal; Secale^{200}; cured.—U. S. Med. Investigator, vol. i., p. 48, Dr. Pease.

Aneurism of right common carotid, near innominata; Belladonna^{200}; cured.—U. S. Med. Investigator, vol. i., p. 124, Dr. J. C. Morgan.

Aneurism carotid; Lycopodium^{12} dil., one drop three times a day; tumor almost disappeared; both legs normal size; entire recovery.—British Journal of Homœopathy, vol. xxviii., p. 787, Dr. Hughes.

Aneurism popliteal; Secale^{1} internally twice or thrice per day, lotion of Chlorate potassa, afterward Belladonna and Arsenicum^{3}; entirely cured of aneurism but subsequently taken by his friends and put under allopathic physicians for subsequent ailments of which he died.—British Journal of Homœopathy, vol. xxviii., p. 787, Dr. Hughes.

ANUS, DISEASES OF.

Ani prolapsus, intestine blackish and painful to touch; Mercurius; cured.—Jeane's Practice of Medicine, p. 25.

Ani prolapsus; Eliza Thomas, aged four; fomentation in solution of alum; Nux vom. every two hours; relief and improvement; incomplete report.—Helmuth's Clinic, p. 46, Dr. Helmuth.

Anus, fissure of; prescribed Hamamelis^{3}, one drop three times a day, then Cocculus^{3} in the same dose, lastly Arsenicum^{6} twice a day; a permanent cure; no indication whatever of a return.—Dr. Hughe's Therapeutics, p. 284.

Anus, mucous tubercles of; Thuja tinct.; complete cure.—U. S. Journal of Homœopathy, vol. i., p. 57, Dr. Kellogg.

BONE, DISEASE OF.

Caries of femur and hyperostosis radii; Sepia^{30} and, after six weeks, Nitric acid^{30}; cured in nine weeks.—Jeane's Practice of Medicine, p. 56.

Caries of maxillary bones; Mercurius sol.^{30}, Nitric acid^{30}, Silicea^{30}, Causticum^{30}, Calcarea^{30}, Sulphur^{30}, Belladonna^{30} and Sepia^{30}; Mercurius sol. and Causticum proved the most useful; complete cure; dead bone came away.—U. S. Journal of Homœopathy, vol. i., p. 718.

Caries of Maxilla; Silicea^{30}, four globules night and morning for fifteen days; after this Silicea^{30} and Silicea^{3} in alternation, one globule night and morning; complete cure; dead bone expelled without the aid of instruments.—U. S. Journal of Homœopathy, vol. i., p. 720.

Caries of maxilla; Mercurius sol.^{30}, four globules in teaspoonful of water, one night and morning; toward the close, Mercurius sol.^{200}; complete cure.—U. S. Journal of Homœopathy, p. 720.

Caries of inf. maxilla; R. L., aged 23; Mercur. sol.^{6} ter die., Mercurius sol.^{12} bis die, Sulphur^{30} one dose bed time, Arsenic.^{12} ter die; pain lessened by Mercurius sol.; burning feeling relieved by Arsenicum. After discharge of abcess Phosphorus^{6} ter die causes ulcer to heal; continued well for five months then returned with cheek much indurated and very painful, administered Silicea^{12} and ^{18} bis die, subsequently Sac. lactis for six days, Silicea^{30} every alternate night; thorough cure, no symptom of return of disease.—British Journal of Homœopathy, vol. xix, 523, p. Dr. Markwick.

Caries inferior maxillary; 1. Aurum mur.^{6} pulv. xx., 2. Calcarea carb.^{6} pulv. xx. powder every night for one week of No 1.; then, after one week's intermission, every night from No 2 in same way; in three months perfect cure effected.—American Homœopathic Review, vol. iii., p. 112, Professor W. T. Helmuth.

Caries ossium digitorum; Silex; cured.—Jeane's Practice of Medicine, p. 57.

Caries of temporal bone, a sequel of scarlet fever; boy aged 6, left side of cranium arrested in its growth and considerably smaller than the right; Fluoric acid, administered. After the employment of Fluoric acid attack came on in an aggravated form but never returned; left side of cranium gradually increased in size until the inequality was too insignificant to be perceptible.—Dr. Hughes' Therapeutics, p. 480.

Caries tibiæ from an insect bite six years before with large ulcer; Asafœtida^{6} in one drop doses; caries removed and ulcer healed in thirty-six days.—Jeane's Practice of Medicine, p. 51.

Caries of supra-orbital arch; Mercurius sol.^{30}, Silicea^{30}, Aurum^{30}, Mercurius sol.^{300} and Sulphur; speedy cure.—U. S. Journal of Homœopathy, vol. i., p. 720.

Caries tibiæ; Silex, Asaf., Calcarea carb., Mezereum, Silex repeated, Spirit sulph. and Nitric acid; cured.—Jeane's Practice of Medicine, p. 57.

Caries of maxilla upper, from Nitrate of silver; Mercurius corrosivus^3; slow but perfect recovery.—U. S. Journal of Homœopathy, p. 313, Dr. Mitchell.

Caries of dorsal vertebræ; child aged 5; tried Rhus, Cocculus, Sulphur, Bryonia, Ipecacuanha, Arsenic., and Mercurius viv., without perceptible effect; prescribed Lachesis^{30} dil., two doses; marked improvement immediately after Lachesis was administered; dyspnœa and thirst nearly removed after four days treatment with Lachesis; restored to normal condition except muscular weakness.—British Journal of Homœopathy 1864, p. 480, Dr. C. Wesselhoeft.

Distortio spinalis with great protuberance of the abdomen, pain in head and eyes, strabismus, etc.; Belladonna^{16} in one drop doses; entirely cured in two weeks.—Jeane's Practice of Medicine, p. 54.

Distortio spinalis, with chronic hydrocephalus; Calcarea carb., Ipecacuanha, Silicea; complete cure.—Jeane's Practice of Medicine, p. 55.

Distortio spinalis with tetanic symptoms and dysuria; Cicuta, Staphysagria and Sulph.; the Cicuta removed tendency to tetanus, Staphysagria stopped dysuria and Sulph. cured deformity in eight weeks.—Jeane's Practice of Medicine, p. 57.

Exostosis on frontal, parietal and occipital bones; Phosphorus^{36} gtt. j, frequently repeated; cured.—Jeane's Practice of Medicine, p. 56.

Exostosis from Mercury; Belladonna^{12}; much better.—Jeane's Practice of Medicine, p. 54.

Exostosis syphilitica and caries with other symptoms of tertiary syphilis; Aurum^3 dec. trit. in scruple doses; two doses per day for ten days, then one dose every six days for three weeks; completely cured in less than five weeks; no return at the end of three years.—Jeane's Practice of Medicine, p. 54.

Fracture of cranium, depression of both plates of skull; applied Calendula externally and internally; cured.—Transactions American Institute of Homœopathy, 1874, p. 17, Dr. E. C. Franklin.

Fracture of sup. maxillary; Calendula locally; Aconite for fever; Silicea and Hepar during suppurative process; entire restoration.—Transactions American Institute of Homœopathy, 1874, p. 17, Dr. E. C. Franklin.

Depression of both tables of skull with fracture of occipital bone; wound dressed with Calendula; Aconite given during febrile reaction, Hepar, Silicea and China for general purposes; rapid recovery.—Transactions American Institute of Homœopathy, 1874, p. 18, Dr. E. C. Franklin.

Fracture of cranium and protrusion of brain; cold application of Hypericum to injured parts, Arnica internally every hour, followed subsequently by Aconite and China; reaction in eight hours; entire recovery in two months after injury.—Trans. Amer. Inst. of Hom., p. 19, Dr. E. C. Franklin.

Fracture of femur with non-union of bone; Calcarea phos.^{30}, dose morning and night; cured in three weeks.—Western Homœopathic Observer, vol. iv., p. 225, Dr. Willard.

Hyperostoses femoris; Arnica, Lycopodium^{30} and Silex; cured.—Jeane's Practice of Medicine, p. 56.

Hyperostosis of foot; Lycopodium^{30}, Silicer^{24}, Mezereum^{24}, and Ledum; cured.—Ibid, p. 55.

Hyperostosis of humerus throughout its entire length; Dulcamara^{30}, Staphysagria^{20}, Phosphorus^{30}, Sulph.^{3}; cured in eight weeks.—Ibid, p. 55.

Hyperostosis of radius; Asafœtida in large doses; then Pulsatilla^{12}; to counteract this, Mezereum^{6}, Silex^{18} and Calcarea carb.^{30}; finally Lycopodium^{30}; bone reganied natural size; joint became perfectly movable. General health improved; scurfiness of skin removed by Lycopodium.—Ibid, p. 53,

Hyperostosis tibiæ; Cinchona^{18}, two pellets at a dose, Asafœtida^{9}, Mezereum^{6}, Silex^{21}, Sulph.^{6}; improvement for seventeen days under Cinchona; Asafœtida diminished the swelling and softened the skin; after 51 days a slight thickening of the skin alone remained which the Sulph. removed.—Jeane's Practice of Medicine, p. 52.

Necrosis following periostitis: complete atrophy; Calcarea carb.^{6}, one dose a day for a few days, then at longer intervals; subsequently Silicea, Sulph., Phos., Phos. acid, Mercur., Mer. hyd. and Rhus; cloths kept constantly wet in cold water; improvement prompt; no pain after three days; foot assumed healthy appearance in a few weeks; discharge of healthy pus and fragments of bone for several months; limb now of natural size and perfectly well.—Philadelphia Journal of Homœopathy, vol. iii., p. 482, Dr. Williams.

Necrosis, acute, of inferior maxillary; J. Walsh, aged nine; Mercur. prot. iod.^{30}, two grains night and morning for one week; parts syringed bis. die, with Lister's solution Carbolic acid; considerable improvement; treatment continued; cured. —Helmuth's Clinics, p. 171, Dr. Helmuth.

Necrosis, three cases; Silicea^{30}; quantity of pus diminished in less than three days; pus, which was before very offensive, became entirely inodorous.—U. S. Medical Investigator, vol. i., p. 228, Dr. Wm. P. Armstrong.

Necrosis of bones of arm and forearm from a blow four months before; Arnica, Silex, Calcarea carb., Spirits of sulph. and Colocynth; Arnica relieved the pain; Silex, Calcarea carb. and Sulph. effected a cure; Colocynth removed stiffness of joint.—Jeane's Practice of Medicine, p. 57.

Necrosis of metatarsal bone with ulcer; limb resembles case of elephantiasis; Arnica^{15} dec., three globules internally every morning, fasting; Arnica tincture, ten drops in a pint of rainwater as a lotion; considerable relief as to pain and ability to use the limb; ulcer remained unaffected. Prescribed Mercur. cor.^{6} dec. trit., one grain in eight ounces of clarified rain-water; œdema of limb arrested by Bellad.^{30} dec., three pellets, fasting; for fetor Carb. veg.^{15} dec., three globules every morning fasting; Phos. acid^{3}, same dose, Sepia^{30} dec., one grain, Sulph^{30} dec., one grain; entire cure and rescue of limb from amputation.—American Hom. Review, vol. iii., p. 233, Dr. Hornby.

Necrosis of tarsus; Calcarea carb.; separation and painless discharge of dead bone.—Jeane's Practice of Medicine, p. 55.

Necrosis of tibia; Silicea^{6} ^{200}, taken every other night alternately; change for the better in less than a week; spiculæ of bone thrown off every few days; complete cure in six months. —U. S. Medical Investigator, vol. i., p. 228, Dr. William P. Armstrong.

Periostitis; R. W., aged 36, never had syphilis; no fever; all functions of body healthy, but unable to walk; right limb much swollen; prescribed Veratrum album', every three hours; limb to be packed in cotton wadding; in seven days limb restored to normal condition not a trace of swelling or pain.—British Journal of Homœopathy, 1864, p. 645, Dr. W. Huber.

CANCER.

Cancer of right breast; woman aged 46; cancer treated with Hydrastis, mother tincture, and Nos. 3, 6 and 12; indigestion and other constitutional ailments treated with Arsenic., Conium, Spongia, China, Nux vom., etc.; cured; tumor very much decreased, though still adherent to the skin.—British Journal of Homœopathy, 1862, p. 5, Dr. Bayes.

Cancer of right breast; woman aged 77; tumor unattached to either skin or ribs; a small, hard tumor (movable) just above the clavicle; Hydrastis from 30th dil. to mother tincture internally; lotion of tinct. Hydrastis gtt. x, aq. dis. ℥xvi, twice per day; tumors have not increased, pain much diminished, health excellent.—Ibid, 1862, p. 5, Dr. Bayes.

Cancer of left breast; woman aged 22; Hydrastis can.; tumor entirely disappeared.—Ibid, 1861, p. 150, Dr. Bayes.

Cancer, open, of the left breast; woman aged 50; Hydrastis can.; tumor reduced to size of small pea.—Ibid, 1861, p. 150, Dr. Bayes.

Cancer. 1. Malignant tumor of right breast, size of duck's egg; Hydrastis' in drop-doses; thorough cure in about six weeks; pain at once relieved.—Ibid, 1863, p. 639, Drs. MacLimont and Marston.

2. Tumor in left breast; Hydrastis both externally and internally for two months; immediate cessation of pain and ultimate dispersion of tumor, with no indication of return.—Ibid.

3. Cancer in left breast, and neck of womb, ulcerated and

nodulated; Hydrastis internally as a lotion to the breast and an injection to the womb; swelling disappeared from breast, discharge ceased, pains gone, and ulcers cleansed and cicatrizing.—British Journal of Homœopathy, p. 642, Dr. Bayes.

4. Large hard tumor in left breast; Hydrastis; ten days afterward a plaster of one-third paste and Stramonium ointment; improvement; inflammatory action having set up, desisted from local treatment for twenty-four hours, and substituted Acon. and Bellad. with a lotion around circumscribed parts; removed 17 ounces of diseased tissue by application of acid; patient fully recovered in less than three weeks.—Ibid., p. 643.

5. Similar case and treatment with exception of substituting Arsenic. for Bellad.; tumor size of a large orange; thorough cure effected in two months; entire restoration to health and spirits; freedom from pain.—Ibid , p. 645.

6. Cancer of left breast, movable tumor; Hydrastis^{1} dec.; complete cure in two months.—Ibid., p. 647.

Cancer of right breast; woman aged 48; tumor stony-hard and adherent to subjacent tissues; Hydrastis, commencing with 30th running down to mother tincture in five-drop doses; Hydrastis had marked influence in relieving pain; size of tumor stationary, but patient subsequently died from pleurodynia and neuralgia.—Ibid., 1862, p. 8, Dr. Bayes.

Carcinoma of left breast; married woman aged 41; Arnica^{3}, pilule twice a day; indurated scirrhus; perfect cure; inflammation subsided; Hydrastis^{3} gtt. iv, Sacch. lac. gr. xx. dissolved in half a pint of water; Arnica and Hydrastis alternately administered in increased quantities; tumor disappeared; to take away slight pain remaining, Conium^{30} gtt. iii., Sacch. lac. gr. i. every third night.—Ibid., 1862, p. 2, Dr. Bayes.

Carcinoma uteri; Arsenicum^{3} dose night and morning for one week, Conium^{3} night and morning, one drop for one week; these two remedies were rotated thus for four months with an occasional dose of China for hæmorrhage; perfect cure; no return three years afterward.—U. S. Journal of Homœopathy, vol. i., p. 41, Dr. Leon.

Carcinoma uteri, chlorosis and menstrual derangements;

medicines used, Cocculus, Crocus, Ferrum met., Pulsatilla and Secale; chlorosis yielded to Pulsatilla; only two cases required Ferrum met., and one Natrum mur.; in cancer of womb Secale of most service.—British Journal of Homœopathy, 1864, p. 402, Leopoldstadt Hom. Hospital, 1861.

Cancer of digestive organs; Madam ——, aged 48, had attacks of abdominal pains and cramps which finally became fixed in the pit of the stomach; on first attack prescribed Aconite, Arsenic., China, Lycopodium, Nux vom. and Sulph:; on second attack, Ipecacuanha, which relieved her; on third attack, Ars.^{2} dec.; on fourth attack, Ars.^{2} dec., gtt. vi in aqua ℥ iv, tablespoonful every quarter of an hour; on this last attack vomited up pieces of colloid cancer; Arsenic. was continued in higher potencies for two months; has had no attack since.—Ibid., vol. xvii., p. 65, Dr. von Viettinghoff.

Cancer, encephaloid (subacute); Mrs. E. B., aged 30; Belladonna^3, Bryonia^3, Phos. $\frac{2}{30}$, Hepar $\frac{2}{30}$; under these remedies there was little improvement, Arsenic. $\frac{2}{30}$; under Arsenic. tumor separated into many pieces, one piece size of hazel-nut was removed; cured.—Ibid., p. 66.

Cancer of face; Arsenic.^{30} dil.; the lower dilutions of the same drug were afterward used; cure in four months; no return.—U. S. Journal of Homœopathy, vol. i., p. 717, Dr. Leydet.

Cancer of face; Kali chlor. applied with compresses every two or three hours, dissolved in distilled water in the proportion of one to six, and afterward one to twelve; in eight days the corroded parts were almost healed; in fourteen days a clear demarcation formed between the ulcerous and healthy skin; in three weeks the base of the ulcer sloughed off, and in five weeks a fair, smooth, white cicatrix formed; permanent cure.—British Journal of Homœopathy, vol. xxv., p. 518, Dr. Boscher.

Cancer, hæmatoid, on right cheek, extending to ala of nose; Carbolic acid externally and internally; entirely removed without operation; all traces removed within two months.—Transactions American Institute of Homœopathy, 1872, p. 389, Dr. G. M. Pease.

Cancer, melanotic; Carbolic acid and Sanguinaria for three weeks, the former for the cancer, the latter for the gastric dis order merely, at intervals; during the first three weeks tubercle reduced to size of a pin-head, and all pain stopped; ultimately complete recovery.—Medical Investigator, vol. xi., p. 549, Dr. Albert G. Beebe.

Cancer, open, of left breast; woman aged 50; Hydrastis; Hydrastis occasionally suspended when depression of heart's action present; when brought under treatment, bed-ridden and believed to be in articulo-mortis; so far recovered as to be able to pursue her daily employment in housework.—British Journal of Homœopathy, 1862, p. 6.

Cancer, scirrhus of the breast; treated with lotion Hydrastis, and Arsenic.^{6} pilule twice a day; suffering from phthisis, for which Bryonia, Phos., etc., were prescribed; pain in breast removed; patient still under treatment.—Ibid.

Cancer, scirrhus in the antrum highmorianum; Mrs. Elizabeth B., aged 53; the remedies were first Arsenic., Silicea and Sulph., next Nux vom., Carbo ligni, Lycopodium, Calcar. carb., third series, Ipecacuanha, Pulsatilla and Aurum; the intercurrents were Asafœtida, Lachesis and Iodium: the scirrhus never gave way till Aurum^{12} was given, two globules for a dose, night and morning for three weeks; perfect cure.—Ibid., vol. xvii., p. 59, Dr. von Viettinghoff.

Cancer, scirrhus; Arsenic.^{3} repeated every eight days; cured.—Jeane's Practice of Medicine, p. 348.

Cancer, scirrhus; Belladonna^{12}, one dose repeated at the end of fourteen days with smaller dose; cured.—Ibid.

Cancer, scirrhus of breast; Conium, Chamomilla and Conium locally; improvement under both Conium and Chamomilla, finally cured by the Conium locally.—Ibid.

Cancer, scirrhus of the uterus; Magnesia mur.; cured.—Jeane's Practice of Medicine, p. 348.

Cancer, scirrhus of lip; Nux vomica gtt. j, Conium^{12} gtt. j; Nux was followed by great improvement, Conium completed cure by tenth day.—Ibid., p. 350.

Scirrhus, induration of cheek; Sil.^{30}, six pellets in two ounces of water, tablespoonful every other day; completely removed.—Ibid., p. 351.

Scirrhus, induration of left breast; Mrs B., aged 21, Pulsatilla $\frac{6}{30}$, Belladonna^3 Bry.^{3} alternating, Mercurius sol., Arsenic. $\frac{2}{23}$, Conium $\frac{2}{30}$; cured.—British Journal of Homœopathy, vol. xvii., p. 70, Dr. von Viettinghoff.

Scirrhus, induration of the breast; Mrs. H. J., aged 50. Gave Arnica to antidote the camphorated oil which had been used; prescribed Conium $\frac{1}{30}$; gave Puls. $\frac{1}{30}$, Belladonna $\frac{1}{3}$ for shooting pains under arm; improved.—Ibid, p. 71.

Scirrhus of mammæ; Mrs. S. Everit, aged 53; Arsenic, Belladonna $\frac{2}{80}$; much improved, the tumor lessened; patient considered herself well enough to cease treatment; came again claming to be as bad as ever, having brought it on by drinking. Improvement this time slow.—Ibid, vol. xvii, p. 68, Dr. von Viettingoff.

Cancer of the stomach; nurse, aged 52; Arsenic., Kreasote; subjective symptoms much relieved by Arsenic.; vomiting diminished by Kreasote but never entirely disappeared,—Ibid, 1861, p. 134, report of Homœopathic Institute of Leopoldstadt.

Cancer in the uterus; Mrs. D. aged 56; Nux vom., Sepia, Pulsatilla, Bryonia, Kreasotum, Sulphur, Carbo anim., Thuja and Arsenicum; disease was of too long standing and too deeply ramified to be cured, but under the action of Sepia, Thuja, Carbo anim. and Arsenicum, pieces of decomposed cancerous tumor came away from rectum and vagina.—British Journal of Homœopathy, vol. xvii., p. 64, Dr. von Viettinghoff.

Cancer, uterine; Mrs. F. B. M., aged 70; the ground work medicines were Sepia and Silicia, next Magnes. carb., Sulph., Caust., Lycopodium; in third place, Pulsatilla, Arsenicum, Belladonna. Other medicines were given to rectify accidental occurrences; so much improved as to be able to walk for two hours as exercise.—Ibid, vol. xvii., p. 57, Dr. von Viettinghoff.

Cancer of womb; menstruation ceased five months since; in its place a continuous fœtid discharge with labor-like pains; profuse urination; Bryonia removed the severe pains within six days. Belladonna reduced these pains to mere trace of irritation; diminished quantity and fœtor of discharge and abated urgency of stool and urine; headache entirely gave way, sleep and moderate appetite established; cure nearly established.—British Journal of Homœopathy, 1861, p. 144, Homœopathic Institute of Leopoldstadt.

1. Condylomata, specific; warty excrescence behind the glands, Tartar. emet.; complete cure in five weeks. British Journal of Homœopathy, 1861, p. 428.

2. Urethritis; Tartar. emet.; complete cure. Ibid.

Cancerous tumor of breast; Conium, one pill a day, afterward increased to four; complete cure. Philadelphia Journal of Homœopathy, vol. iv., p. 377, Dr. Cade.

Tumor in cervical gland, left side of neck; Calcarea carb.^{30} gl. iij, Sacch. lac. gr j every third night, Calcarea carb.^{6} pilule every night on which powder not taken; great improvement Calcarea carb.^{12} pilule every other night. Hardness remaining with occasional shooting pain, Hydrastis can., three pilules every night; swelling much reduced and generally better. Suffers from indigestion; repeat pill Hydrastis and Nux vom.^{6} pilule twice per day; pain ceased and no increase of tumor. British Journal of Homœopathy, 1862, p. 6, Dr. Bayes.

Tumor on dorsum of foot, size of walnut; woman aged 55; Hydrastis can.^{3} pilule bis die.; tinct. Hydrastis can. ʒ ij, aqua dis, ℥ jss, to be rubbed in every night. After six months treatment, reduced to size of a pea. No indication of return.—Ibid., 1862, p. 6, Dr. Bayes.

Stony tumor in the left breast; woman aged 37; tumor movable, size of a large filbert, somewhat nodulated; lancinating pains; Hydrastis^{12} pilule twice per day, afterward Hydras. tinct., a third of drop three times per day. Intercurrently a few doses of Nux vom. for dyspeptic symptoms; tumor became painless, and gradually diminished; thorough cure; neither pain or induration remaining.—Ibid., p. 8, Dr. Bayes.

Two knotty tumors in right breast, size of hen's egg, and one in left breast; Hydrastis in increasing doses, and Hydrastis lotion; great and rapid improvement. Tumor reduced to size of walnut. Steadily gaining health and strength; still under treatment.—Ibid., Dr. Bayes.

Stony enlargement of os uteri; Miss H., aged 48; Hydrastis^{6} ^{12}; lotion ʒ ij, mother tincture, to ℥ viij water; lotion gave much pain and was discontinued. Hydrastis produced no effect; Arsenic. iod.^{3} substituted with rapid change for better in all symptoms. Cold infusion of Hydrastis as an injection to relieve pain; still under treatment. Ibid., 1862, p. 8, Dr. Bayes.

Fungus hæmatodes oculi; Belladonna^{30}, Cal. carb.^{12}, Lycopodium^{12}, Sepia^{30}, Silex^{12}, Calcarea carb.^{18}; Belladonna removed the excessive photofolia and inflammation in six days; Calc. carb. at first aggravated, but afterwards removed cloudiness of cornea; Lycop. lessened size of fungus, as did also the remaining remedies; the cure was complete.—Jeane's Practice of Medicine, p. 187.

Fungus hæmatodes oculi; Belladonna^{26} gtt j, at intervals of a week for four weeks, Nux vom., Euphrasia and Aconite; complete cure. Idid., p. 190.

Cauliflower excrescence of uterus, about six inches in circumference; internal administration of Hydrastis subsequently using paste to reduce the fungoid growths; general health greatly improved; marked diminution of vegetatious growths, and at close of six weeks almost level with surrounding healthy structures.—British Journal of Homœopathy, 1863, p. 648, Drs. MacLimont and Marston.

CALCULUS.

Calculi, renal; citrated borate of Magnesia, a knifepointful ter in die; temporarily relieved by Nux vom., soda water and Wildung water; renal calculi passed readily away; all traces of disease passed away within seven days; no relapse within five subsequent weeks.—Ibid., vol. xxiv., p. 688, Dr. Becher.

Calculus, renal and gravel; citrated borate of Magnesia, about as much as would stand on the point of a knife, every two hours; pain and urgency of micturition completely disappeared; quiet sleep; brown cylindrical stone passed out with urine, one line long by half a line broad; complete cure.—Ibid., p. 687.

Cephalalgia from pressure on brain; Arnica^{3} dil. three times a day; cured in three days without trephining or other instrumental interference.—U. S. Journal of Homœopathy, vol. ii., p. 124, Dr. Blœde.

DROPSY.

Dropsy; Arsenic.^{12} cent., six drops in a wineglass of water, two drops every three hours, afterward changed to 30th cent.; the lower dilutions made not the slightest impression on the disease; rapid improvement, however, resulted on the administration of the higher potency; entire cure resulted within eight weeks.—British Journal of Homœopathy, vol. xxv., p. 511, Dr. D. Whitney.

Dropsy, general; woman aged 27; face, abdomen and limbs all involved; unable to lie down for fear of strangulation; death imminent; administered Arsenic.^{6} one drop every six hours, subsequently every night and morning; after first few doses general improvement apparent; in four weeks a complete cure.—Ibid., vol., xxiv., p. 671, Dr. Haustein.

Dropsy, pericardial; X., X. aged 40; first prescribed Arsenic.^{3} dec. and Ipecacuanha^{3} alternated every two hours; subsequently Apocynum can. θ one drop, Mercur.^{3} dec. trit. one grain every three hours, increased to two drops every two hours; but slight relief from first prescription; Apocynum can. so improved all symptoms that he is enabled to do light work and sleep comfortably, which he had not done for many years.—Ibid., vol. xxiv., p. 329, Dr. J. D. Craig.

Hydrothorax and anasarca; prescribed Apocynum can.; patient aged 80; marked improvement, and arrest of symptoms in forty-eight hours.—Ibid., p. 325.

GANGRENE.

Gangrene, traumatic; Lachesis^{6} one dose; process arrested in a few hours; cure complete.—U. S. Journal of Homœopathy, vol. i., p. 57, Dr. Dake.

Gangrene, traumatic; Lachesis^{200} one dose; stopped and healthy action set up in two days, after Arnica, Arsenic. and Secale had failed to give relief.—Hahnemannian Monthly, vol. ii., p. 29, Dr. Gilchrist.

Gangrene, traumatic, from burn; Lachesis^{6} one dose; process stopped, and cure effected without delay.—U. S. Journal of Homœopathy, vol. i., p. 61, Dr. Dake.

Gangrene, traumatic, from compound fracture; Lachesis^{6} one dose; process stopped in six hours; all traces disappeared in two days.—Ibid., p. 60.

Goitre; congestion of thyroid gland; first gave Iodium, Calcarea carb. and Rhus, afterward Apis mel.^{15} ^{30}, swelling as large as a goose-egg; Iodium and Calcarea carb. alleviated but did not cure; Apis mel. reduced the gland to its normal size within two weeks.—British Journal of Homœopathy, 1865, p. 674, Dr. Poulson.

1. Simple goitre; Iodium^{1} dec.; cured in two months.—Ibid., vol. xxv., p. 180, Dr. J. Kidd.

2. Goitre, simple and hard; Iodine, mother tincture; cured in six weeks.—Ibid.

3. Goitre in girl aged 12, of weak constitution, Iod.^{1} dec. six drops ter in die; cured in six months completely.—Ibid.

4. Cyst in thyroid; after using Iodine internally and externally, for two months, and Spongia tost. for six months; cured by injection of Iodine; entire disappearance of tumor and perfect cure.—Ibid.

5. Goitre, exophthalmic; Belladonna^{1} dec., five drops ter in die, after failure of both Iodine and Iron; permanent cure in five or six weeks. Ibid.

Goitre; under allopathic treatment at first without improvement; began with Sulph., afterward Calcarea, then pil. Iod., externally Iod.^{1} dec., Bellad. for headache, Mercur. sol. for purulent discharge; all symptoms gradually vanished; goitre entirely gone, not to return.—British Journal of Homœopathy, vol. xxviii., p. 390, London Hom. Hospital.

Goitre; Calcarea carb.^{3} trit., one dose daily for ten days; Calcarea carb.^{6} gtt. vi, in aqua, tablespoonful morning and night; after one month appetite had improved, but swelling remained; in nine months was entirely cured.—Western Hom. Observer, vol. iv., p. 178, Dr. Bourgeoise.

Goitre, size of hen's-egg; Calcarea carb.^{3} trit., dose every morning for twelve days; three months after Calcarea carb.^{30}, later Calcarea carb.^{200}; at the time the last medicine was given the tumor was so small as not to be noticeable.—Ibid., p. 179.

Goitre of size of hen's-egg, which interfered with respiration; Mercur. prot.^{12}, one powder every night for two weeks; Mercur. prot.^{3} during day, with 12th at night; Mercur ointment grs. j to adepis ℥j locally; very marked improvement during first two weeks; results from this time unknown.—Hahnemannian Monthly, vol. xi., p. 164, Dr. Blakely.

Goitre; Staphysagria and Lycopodium in alternation, with frequent intercurrent remedies; complete cure.—Ibid., p. 404, Dr. Ricket.

HÆMATOCELE.

Hæmatocele, pelvic; Camphor and stimulants; nonfluctuating tumor displacing posterior wall of vagina; applied ice and cold Arnica lotions externally, gave Arnica internally, and subsequently substituted Hamamelis, five drops mother tincture inwardly, and Hamamelis ℥ss to ℥xxj as a lotion for the abdomen; peritonitis treated by Mercur. corr.^{3} dec. and Belladonna^{3}; first remedies had little or no effect; Hamamelis caused an instant improvement, though only partial in its operation; Hamamelis^{1} dec. and Sacch. lac. absorbed fluid part of the blood, contracted the hæmatocele, and the uterus partially righted itself; eventually after subsequent miscarriage all symptoms with tumor entirely disappeared.—British Journal of Homœopathy, vol. xxviii., p. 250, Dr. J. L Newton.

HÆMORRHAGE.

Hæmorrhage from bowels; Lachesis^{30}, two doses, afterward Lachesis^{3} and subsequently Lachesis^{10000}, Nit. acid^{30}, afterward 200th, lastly Natrum mur.^{500}; Lachesis and Nitric acid had but temporary effect, the attacks continually returning; Natrum entirely subdued and eventually eradicated the disease.—Transactions American Institute of Homœopathy, 1873, p. 416, Dr. W. Gallupe.

Hæmorrhage from stomach and bowels; two cases: 1. Arnica^{1} dec, Ipecac.^{3} dec., Nux vom.^{3} dec. and China^{2} dec; 2. China in drop doses every three hours; Arnica was given for vomiting of blood; China in both cases for the anæmic condition; Nux vom. for the constipation; and Ipecac. for removal of nausea and tendency to vomit; the drugs answered all expectation, affording prompt relief and ultimate cure in each case.—British Journal of Homœopathy, vol. xxviii., p. 555, Dr. Shuldham.

Hæmorrhage of uterus; Mrs. G. aged 35; recurred every eight days; Puls., Phos., Mill., Ham. and Lycop.; Natrum mur.^{30} and Calcarea carb.^{15} in alternation, one drop every morning, and finally Apis mel.^{3} ^{30} in No. 1 globule; first-named remedies had only temporary effect, bleeding from womb returning worse than before; Natrum mur., Calcarea carb., etc., arrested hæmorrhage and reduced tumor; Apis mel.^{3} ^{30} in No. 1 globule effected a permanent and entire cure in about four weeks.—Ibid., 1865, p. 674, Dr. Pouson.

Hæmorrhage, uterine post partum; 1. Secale every half hour; Ipecac.^{30} to arrest hæmorrhage; excellent recovery.—Transactions American Institute of Homœopathy, 1874, p. 12, Dr. M. Friese.

2. Hæmorrhage, uterine post partum; no external hæmorrhage; Secale, Pulsatilla and Belladonna; complete recovery.—Ibid.

3. Hæmorrhage, uterine post partum; Glycerine and Carbolic-acid ointment once a day; Caulophyllin thrice internally; immediate relief, cure anticipated in about three months.—Ibid., p. 28, Dr. E. L. Cook.

Hæmorrhage, uterine; two cases; Bellad.^{200} in water, a dose every half hour; labor at sixth month; cured without bandage, tampon, cold water, or any other appliances; first case, complete recovery in three days; second case, thorough restoration in twelve hours.—Ibid., 1872, p. 230, Dr. M. P. Jackson.

Hæmorrhage, uterine; Crocus^{200} given at increasing intervals for forty-eight hours; retained placenta, spontaneously discharged; thorough cure.—Ibid., p. 203, Dr. J. H. Woodbury.

HÆMORRHOIDS.

Hæmorrhoids, acute: 1. R. S. aged 20; nine drops Æsculus in three ounces of water, dessertspoonful three times per day; 2. Mrs. F. aged 60; one drop Æsculus^{3} every four hours;

both cases completely cured.—British Journal Homœopathy, 1865, p. 485, Dr. Hughes.

Hæmorrhoids; two cases, existing in first case for twelve years, in second case for whole period of adult life; Æsculus hip.^{2} three drops in water twice per day; first case cured by one small bottle; second case cured in two weeks.—Ibid., p. 347, Dr. F. A. Balley.

Hæmorrhoids ani cœcæ; Sepia $\frac{4}{30}$ ^{2}; entire and permanent disappearance of symptoms.—American Hom. Review, vol. iii., p. 88, Dr. B. Fincke.

Hæmorrhoids following parturition; Nux vom. in repeated doses; cured.—Jeane's Practice of Medicine, p. 261.

Hæmorrhoids of several months' standing; Phosphorus for some time, then Ammon. carb.^{30}, one pellet dissolved in four ounces of water, teaspoonful daily; Phosphorus did no good; Ammon. carb. cured in five weeks.—Ibid., p. 260.

Hæmorrhoids, with fissure of anus; Muriatic acid^{3} gtt. ij; cured.—Ibid.

Hæmorrhoids, fifteen months; Graphites and Petroleum; after Graphites slight relief of brief duration; Petroleum cured in four weeks.—Ibid., p. 262.

Hæmorrhoids; Sulphur, gr. $\frac{1}{20}$; homœopathic aggravation at first, then complete cure.—Ibid.

Hæmorrhoids; Aconite^{12} gtt. j, Sulphur^{3} gr. j; cured.—Ibid., p. 263.

Hæmorrhoids, with painful fissure in anus; cured by Pæonia^{3} 5 drops, bathing the parts every two hours. At same time administered on alternate days Sulph.^{30}, Nux vom.^{12} to remove the hæmorrhoids; Hæmorrhoids disappeared on the fifth day and cicatrization complete. In fourteen days all trace had disappeared.—British Journal of Homœopathy, vol. xxv., p. 54, Dr. Ozanam.

HERNIA.

Hernia incarcerata; Nux vom.; cured.—Western Homœopathic Observer, vol., iv., p. 226, Dr. Cserno.

Hernia incarcerata; Nux vom.; cured.—Ibid.

Hernia, incarcerata; Nux. vom.; cured.—Ibid. Dr. Syontagh.

Hernia, strangulated, which had resisted every effort at taxis; Nux vom.^{3}, a powder every fifteen minutes afterward Nux vom.^{30}; Nux^{3} promptly relieved; Nux^{30} relieved subsequent constipation, no relapse yet (five months after).—U. S. Medical Investigator, vol. i., p. 393, Dr. Cranch.

Hernia, umbilical, congenital; Nux vom.^{45000}, Calc. carb.,^{85000}, Fincke, one dose; slight relief at first from Nux, but soon aggravation; Calc. carb. cured the child completely.—Hahnemannian Monthly, vol. ii., p. 546, Dr. C. C. Smith.

HIP DISEASE.

Hip disease; Miss H. M., aged 24; prescribed four powders of Nux vom.^{30} (equivalent to four pellets), then five powders of Sulph., each $\frac{4}{30}$ as above, Rhus tox.^{30} Nos 1, 3, 5, 7; Sacch., lac, Nos. 2, 4, 6, 8; immediate relief in stomach and bowels, pain and irritation about chest and left side and general health much improved, could walk with ease at last report.—British Journal of Homœopathy, vol. xxiv., p. 308, Dr. W. Gallupe.

HYDROCELE.

Hydrocele; M. Grouard, aged 49; injection of Iodine water; size of tumor, 26 by 15 centim.; cure within fifteen days.—Ibid., 1860, p. 450-457, Dr. Helot of Rouen.

Hydrocele;—aged seven years; treatment internally three globules 12th dil. of Rhodod. chrys., night and morning every alternate three days. Externally: R. Rhodod. chrys. ʒ ij, Aquæ font., ℥ vi; appl. mane, nocteque, after fomenting the scrotum; complete cure.—Ibid., 1860, p. 351, Dr. Hastings, Cheltenham, England.

Hydrocele; injection of Iodine water; P. Fountain, aged 32, size of tumor, 20 by 15 centim.; diminution in tumor at end of ten days to one third its size; entire disappearance at close of mouth.—Ibid., p. 450-457, Dr. Helot of Rouen

Hydrocele; Lecointra, aged 62, transparent tumor as large as ostrich egg, same treatment, entire cure; in fifteen days tumor reduced to one third. No inflammation; at the end of two months thorough cure, no indication of return.—Ibid. Dr. Helot of Rouen.

Hydrocele; P. Constantine, aged 63, tumor large, acute inflammation. Entirely cured by same treatment; in six weeks tumor reduced to one third; two weeks later, cure complete. —Ibid., 1860, p. 450-457, Dr. Helot of Rouen.

Hydrophobia, spontaneous; Hydrophobin^{30} dose at close of every spasm; Mercur. viv.^{30} for soreness and muscular rigidity; effectual and positive cure.—Transactions American Institute of Homœopathy, 1874, p. 461, Dr. O. P. Baer.

JOINT, DISEASES OF.

Hydrarthroses of knee-joint; Rhus tox.^{6} dose every three hours for rigidity of limb; Bryonia^{6} and bandage for reduction of swelling and pain, and pneumatic aspirator for extraction of dropsical accumulation; thorough cure and no symptoms of return.—Ibid., 1874, p. 153, Dr. R. E. Caruthers.

Ovarian enlargement; Kali bromid. trituration, a grain night and morning, subsequently Apocynum, Apis and Arsenicum; every trace of enlargement gone, abdomen normal in size and appearance.—Ibid., vol. xviii., p. 787, Dr. Dudgeon. [?]

POLYPUS.

Polypi, "nasal," twenty cases; thorough cure from absorption with Bichromate of potash; inflammatory action sets in within three or four days of application which subsides in about forty-eight hours, and results in the partial or total disappearance of the polypi; relapse very infrequent.—British Journal of Homœopathy, 1863, p. 170, Dr. Fredericq.

Polypi "nasal," Kali bich^{3}, three times per day in pilules; for itching eruption Sulph.^{6}, Kali bich. 1 dec. trit., to be used as snuff once a day. Attack of coryza treated with Merc. sol.^{6}; polypi considerably reduced by use of Kali bich.; nasal symptoms entirely cured; could breath freely through both nostrils; eight months treament.--Ibid., vol. xxviii., p. 356, Dr. R. D. Hall.

Polpus nasi, treated with Calc.^{20} ter die; syringed with Liq. calcis; complete cure.—Ibid., vol. xxviii., p. 356, Dr. R. D. Hall.

Polypus, nasal; Calc. carb. 2 dec. trit., 1 grain daily lime water; after three months treatment polypus entirely disappeared, nose in normal condition.—Ibid., vol. iv., p. 545, Dr. R. D. Hall.

Polypus, nasal; Calc. carb.^{6}, Staph.^{1} in alternation a half hour before each meal and at bed time. No improvement, Teucrium^1 three times a day caused the polypus to disappear; complete and permanent cure.—U. S. Journal of Homœopathy, vol. ii., p. 491, Dr. Richards.

PYELITIS.

Pyelitis; treated first with Bryonia, and afterward with Bellad.^{1} twice or thrice per day, which effected a cure; Bryonia gave but slight relief; the improvement under the use of Belladonna was striking, every symptom being gradually but permanently subdued; health, strength and physical functions entirely restored.—British Journal of Homœopathy, vol. xxv., p. 384, Dr. Watzke.

RANULA.

Ranula; large number of tumors of size of walnuts; had been frequently incised with but temporary relief; Thuja, Nitric acid in alternation twice, Ambra and Calcarea carb.; Thuja and Nitric acid did but little good; Ambra diminished tumors considerably, and Calcarea carb. completed the cure.—Jeane's Practice of Medicine, p. 335.

Ranula of two years' duration, growing; Lycop., Staph. and Mercur., Mezereum^{30}; first three remedies did no good, but Mezereum removed tumor in eight days; frequent return ,each time removed by Mezereum; finally completely cured.—Ibid., p. 335.

Ranula of large size; Mercur.; speedily cured.—Ibid., p. 335.

Surgery, plastic; amputation averted by use of calendula, wounds ragged, torn and bleeding profusely; middle finger which was nearly severed, placed in apposition and bandaged in cotton saturated with Calendula; Calendula^3 internally every two hours, six pellets; pain eased, united completely and hand entirely restored to normal condition in four months. —British Journal of Homœopathy, 1864, p. 511.

Synovitis, acute, and pulmonary hæmorrhage; administered Arnica liniment first, then 40 drops American tincture Verat. vir. several times per day outwardly, at same time grain-doses Calomel^1 dec. trit. every four hours; no relief from Arnica; immediate and marked relief to pain and swelling on application of Verat. vir.; an excellent recovery.—Ibid., vol. xxv., p. 256, Dr. George Moore.

Extensive ovarian cyst; ——, aged 50; prescribed China^6 three times per day, a small portion of a drop in a powder of Sacch. lac.; for asthmatic affection Cannabis sat.^{1} dil., one drop in a teaspoonful of water every four hours; constipation treated by Sulph.^{12} at intervals of two days; Hall's Iodine water constituent parts; chloride of Sodium, Calcarea carb., Magnesia, Iodine and Bromine; 16 ounces contains chloride of Sodium 112.0412 grs.; chloride of Potassium, .0499 grs.; chloride of Ammonium, .0330 grs.; chloride of Calcium, 2. 9330 grs.; chloride of Magnesium, 2.6220 grs.; iodide of Sodium, .0607 grs.; iodide of Magnesium, .2849 grs.; bromide of Magnesium, .5176 grs.; eight days continuance of the China produced a very advantageous change in the digestive system, spontaneous action of bowels and normal pulse; difficulty of breathing and cough considerably diminished by Cannabis; much greater activity in stools and increase of urine; size of abdomen diminished more than two inches in circumference under use of Cannabis, therefore prescribed three tablespoonsful of Hall's Iodine water (about $\frac{1}{48}$ of a grain) at each dose; eight days' treatment produced livelier action in kidneys and outer skin; the abdomen gradually and perceptibly slackened, becoming of a doughy consistency; after four weeks' treatment abdomen reduced to normal condition and size, urine increased to natural quantity.—British Journal of Homœopathy, 1862, p. 588, Dr. Hirsch, of Prague.

Ovarian tumor; married, aged 42; Hydrastis can.^{30}, glob. iii., Sacch. lac. gr. j, two powders on every third night; Aconite tinct., gtt. viii, Sacch. lac. gr. xxiv., dissolve in half a pint of water, tablespoonful twice per day; Rhus tox.^{3}, gtt. vi, Iod.^{3}, gtt. vi, Sacch. lac., gr. xx, in half a pint of water; Mercur. sol.^{6}, Mercur. iod.^{1}, grs. ii, nightly; cured in two months. —Ibid., p. 5.

Tumor, ovarian; Apis mel.; entirely removed in a short time.—Philadelphia Journal of Homœopathy, vol. iv., p. 103.

Tumor, ovarian; Pulsatilla^{30}, Arsenic.^{30}, Lachesis^{30}, Sulph.^{30}, Calcarea carb.^{30}, Aurum^{30}, Mercur. viv.^{30} and Sepia^{30}, one at a time in accordance with the totality of the symptoms; cured in two years; tumor entirely removed within three years from beginning of treatment.—Hahnemannian Monthly, vol. ii., p. 50, Dr. J. H. Payne.

Tumor, ovarian, of large size; case pronounced hopeless by allopathic physician; Bellad.^{30}, Mercur. viv.^{30}, Arsenic.^{35}, Apocynum^{30}, Pulsatilla^{30}, Lachesis^{30} and Sulph.^{30}, in aqua, dose every four hours at first; cured in five months; tumor gradually disappeared.—Ibid., p. 51.

Tumor, ovarian; case pronounced beyond the help of surgery even by several consulting allopathic physicians; Cannabis$^{30\ 200}$, Pulsatilla^{200}, Mercur. viv.^{100}, Arsenic.^{200}, Apis mel.$^{30\ 200}$, Lachesis$^{30\ 200}$, Apoc.^{30} and Sulph.^{200}; amelioration of general symptoms in four weeks, but tumor at first seemed to grow larger; complete removal in nine months; Apocynum had the most decided effect of any one remedy in removing tumor, Arsenic. and Apis mel. next.—Ibid., p. 53.

Tumor, ovarian; Bry., Lach., Sulph., Apis mel.^{30} two doses, with subsequent repetition; Bryonia, Lachesis and Sulph. did no good; Apis mel. removed tumor in three months.—Hahnemannian Monthly, vol. ii., p. 184, Dr. C. Wesselhœft.

Tumor ovarian; Arnica^{200}, Colocynth^{200}, Cham.^{200}, Lach.^{200}, and Lach.^{4000}; very small and may be inflammatory, perfect cure.—Ibid., vol. vii., p. 406, Dr. Miller.

Fungus on gums; Staphysagria, two doses; cured.—Jeane's Practice of Medicine, p. 239.

Ulcer of coccyx, infundibuliform; six months duration; cured by Paeonia^{3} three times a day, both internally and as a lotion; in eight days cicatrization was complete.—British Journal of Homœopathy, vol. xxv., p. 54, Dr. Ozanam.

Ulcer of great toe, five month's duration; cured by Paeonia^{3} internally and externally; complete cure.—Ibid.

Ulcer of back of foot, from tight boots; Paeonia^{3} internally and externally; patient unable to rest sufficiently, therefore cure delayed; took ten days.—Ibid.

Ulcer of anterior surface of tibia; cured by Paeonia^{3} ^{2} ^{1} tinct. internally; cicatrization complete at end of month, no bandage or other appliances used.—British Journal of Homœopathy, vol. xxv., p. 54, Dr. Ozanam.

Ulcer of breast, four months standing; Paeonia^{3} externally and internally; complete cure.—Ibid., p. 59.

Ulcer on left side of neck, embracing shoulders and both axillæ; cured by Chelidonium majus, sixty drops ter in die; found that, while the freshly-expressed juice could be obtained, the healing and cicatrization was satisfactorily rapid, but when not procurable a corresponding delay in progress occurred; entire cure.—British Journal of Homœopathy, vol. xxv., p. 229, Dr. Buchmann.

Ulcer, chronic, of right leg, ten years' standing; serpiginous character; prescribed Paeonia^{3} to mother tincture; cured in two months; ten months elapsed and no return of disease. —Ibid., vol. xxvi., p. 57, Dr. Ozanam.

Ulcer, fistulous, of breast; suspended by long strips of adhesive plaster; prescribed internally ten drops of Phytolacca^{1} four times a day; externally half an ounce of tincture to eight ounces of water to be syringed into fistulous canal; in one week all the ulcers except one had closed, though the gland will never return to its normal condition; the ulceration permanently arrested.—Ibid., vol. xxi., p. 203, Dr. E. M. Hale.

Ulcer, fungus of lower arm; Silicea^{3}; healed in less than three weeks.—Philadelphia Journal of Homœopathy, vol. iii., p. 271, Dr. Williams.

Ulcer, irritable, on shoulder, two inches in diameter; Sulph.^{2} and Vaseline as an emollient; complete cure in eight days.— U. S. Medical Investigator, vol. i., p. 393, Dr. Cranch.

Ulcer, perforating, of the stomach; man aged 60; great emaciation, hæmatemesis and dyspepsia present; administered Arsenic. and Nux vom.; recovered his health completely; strength and appetite nearly restored; has attained 78 years of age, with only slight relapse.—British Journal of Homœopathy, vol. xxiv., p. 657, Dr. Watzke.

Ulceration, malignant, of the nose; cured by Kali bich.; Arsenic. previously administered, but failed to arrest ulcerative process; prescribed Kali bich.^{3} externally and internally, which instantaneously produced a marked change from ulceration to healthy granulation which continued and increased to entire recovery.—Ibid., p. 304, Dr. C. Ransford.

Ulcerated leg, varicose veins; Pulsatilla tinct., five drops in a pint of water externally and internally; Pulsatilla^{16} dec. three globules every night at bedtime; limb restored to its natural condition; health robust and perfect.—American Hom. Review, vol. iii., p. 233, Dr. J. Hornby.

Ulceration of seat, from decubitus; cured by Paeonia^{3}; cicatrization and cure complete in ten days.—British Journal of Homœopathy, vol. xxv., p. 54, Dr. Ozanam.

URETHRA, DISEASES OF.

Urethra, stricture of; Berberis, after many medicines had been given without effect; speedy cure.—Hahnemannian Monthly, vol. vii., p. 402, Dr. Miller.

WARTS.

Warts, more than seventy on the hands; prescribed Natrum muriat.^{24}, in sixteen powders of sugar of milk, one each day; entirely cured within ten days.—American Homœopathic Review, vol. iv., p. 549, Dr. Bojanus.

Warts, malignant; Arsenicum^{6}, six globules dry on tongue; only one dose given; complete cure in ten days; no return one year afterward.—U. S. Journal of Homœopathy, vol. i., p. 43, Dr. Leon.

Warts on face, fourteen in number; Thuja$^{20\ 200}$, with tinct. externally, Calc. carb.^{200}, six globules every morning for one week, Calc. carb.$^{30\ 6}$; under Thuja a few warts disappeared; but more made their appearance; Calc. carb.^{200} improved general health, Calc. carb.^{30}, six warts disappeared; Calc. carb.^{6}, all remaining warts disappeared within month.—Western Homœopathic Observer, vol. iv., p. 181, Dr. Bourgeois.

Warts on the face, large number; Calcarea carb.; warts all dried up and dropped off.—Ibid., p. 161, Dr. Bourgeois.

Warts on the hands; Thuja$^{30\ 18}$ for two months and Thuja tinct. locally, Calcarea carb.; no result from Thuja; warts began to drop off after first dose of Calcarea and after two months treatment all disappeared.—Ibid., vol. iv., p. 181, Dr. Bourgeois.

Warts on hands, of many years standing; had been removed several times by caustic; treatment, Thuja^{6} dec. every morning internally, and Thuja tinct. applied morning and evening with Nux vom.^{6} twice or three times a week for two weeks. Next two weeks Nux as before; continue Causticum^{12} dec. internally and Causticum^{3} dec. externally in place of Thuja and so continuing, alternating as above; no diminution in size of warts for six months, but general health began to improve. Between six and seven months warts began decreasing in size and growing white and shriveled. By the end of the ninth month the hands were perfectly smooth and all signs of warts gone.—U. S. Medical Investigator, vol. i., p. 234, Dr. John F. Wage.

Warts on hands and face; treatment same as in last case; at the end of four months all traces of warts had disappeared.—Ibid.

WHITLOW.

Whitlow (or panaris); lady aged 30, right fore-finger; concentrated Nitric acid applied for about two minutes; immediate relief and gradual and entire subsidence of both swelling and pain; entire cure within four days.—British Journal of Homœopathy, 1863, p. 218, Dr. J. Hirsch, of Prague.

Whitlow (or panaris) of middle finger; young man similar remedy and result.—Ibid.

Whitlow (or panaris), aggravated case; girl aged 11; Silic.^{24} and Hepar^{2} trit.; in eight days entire cure.—Ibid.

Wounds, gun shot, near os pubis and femoral artery; prescribed Urtica urens, six globules in half tumbler of water and four globules Sulph.^{20}; complete and permanent relief to pain. Temporary loss of power in limb alone remaining.—American Homœopathic Review, vol. iii., p. 462, Dr. D. F. Wells.

Wound on surface of tibia down to calf; Lachesis^{200} in ℥ of water, dose every half hour; cured.—Ibid., vol. iv., p. 556, Dr. T. F. Allen.

Poisoned hands; Lachesis^{200} every hour; complete cure in ten days.—Ibid.

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AMERICAN INSTITUTE OF HOMŒOPATHY.

BUREAU OF SURGERY,

1886.

INGUINAL AND FEMORAL HERNIA.

[illegible]

AMERICAN INSTITUTE OF HOMŒOPATHY.

BUREAU OF SURGERY, 1886.

THE accompanying synopsis of a paper on Hernia has been kindly prepared by Prof. Wm. Tod Helmuth, M. D., of New York, for the members of the Bureau, and such other physicians as may be disposed to contribute their observations and experiences in regard to this important subject at the ensuing meeting of the Institute.

This synopsis will afford many suggestions, and you are earnestly requested to assist the Bureau in preparing a valuable monograph on the subject. The report of special cases, methods of operating, improved surgical apparatus, treatment, either surgical or medical, radical or palliative, and especially the action of homœopathic remedies in cases of hernia, will be of great importance. Will you kindly communicate with the Chairman, or any other member of the Bureau, concerning this, or any other surgical subject you may wish to present to the Institute?

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SYNOPSIS OF A PAPER ON HERNIA.

BY WM. TOD HELMUTH, M. D., OF NEW YORK.

In the further elucidation of this paper, in which the members of the Bureau are expected to participate, the effort will be made to fully enter upon each of the considerations herein detailed, in order that at least a moderately exhaustive paper may appear in the transactions of the Institute, and discussion be elicited at the next meeting. There are a number of traditional points connected with hernia that the light of modern experience does not bear out; and there are other new and important considerations which require further elucidation. It is hoped that, by the united efforts of this Bureau, a modern treatise on the subject may be prepared which will be of benefit to the profession. The members of the Bureau, and others to whom this synopsis may come, are requested to aid the author in his researches, and especially, at the meeting of the Institute, to give their personal experience on those divisions of the subject with which they have become familiar. This paper being prepared for practitioners, and not for students of medicine, the various simple definitions and details are omitted.

The subject has many divisions, the first being

I. The Frequency and Sites of Hernia.

The frequency of hernia has given rise to much discussion, and from Malgaigne's tables, the number of males suffering from it is one to thirteen; and of females, one to fifty-two. From this it will be seen what an immense number of men and women in this country, Great Britain, and France are subject to rupture. The figures showing the relative frequency of the different varieties of rupture also indicate the far greater frequency of oblique inguinal, than of any of the other forms of protrusion. The reports from the

Surgeon-General's office, in this respect, are instructive. Out of 334,321 recruits examined for army admission, no less than 17,296 were rejected for hernia, in one form or another, showing a ratio of about fifty per thousand; and this percentage may be considered a tolerably fair estimate of the relative frequency of hernia among the laboring classes. Of these, the right inguinal are by far the most numerous, being 8,598; the next in order is the left inguinal, which numbered 5,420; the double inguinal, 1,166; thus making the number of cases of inguinal hernia, single and double, 16,178, out of 17,296. If we also take into consideration that from the total must be deducted 651 cases of unspecified hernia, the immense proportion of inguinal over every other variety of rupture can at once be perceived.

II. NOMENCLATURE.

The next point of interest, and one that ought to be carefully considered, is the nomenclature of rupture. I mean by this a definite understanding of certain terms given to the different forms of protrusion, either by the surgeons who have described their anatomical or pathological appearance, or according to the parts protruded, or according to the condition of the gut, or the appearance of the omentum. On some of these names all surgeons have been agreed from time immemorial; upon others it is necessary that a definite understanding be reached, and the anatomy described, that confusion of terms may be prevented.

The novice readily understands the terms enterocele, epiplocele and entero-epiplocele, and he has no difficulty in comprehending those forms of gut protrusion which receive their names according to their anatomical sites, viz., inguinal, femoral, umbilical, perineal, etc.; or, according to the condition of those parts, reducible, irreducible, incarcerated, and strangulated; but the difference between the "congenital" and the "congenital form" of hernia, between Birkett's "hernia of infancy" and the "infantile hernia of Hey," the "encysted" of Sir Astley Cooper and "hernia *en bissac*" of the French authorities, as well as other varieties, is not so generally understood, and the categories are likely to become very much confounded.

The simpler the classification, the more readily will the student understand the relations that one protrusion bears to the other. The characteristics of reducible, irreducible, incarcerated, and strangulated hernia are of course too well known to need any mention in a paper of this character.

III. Surgical Anatomy.

The surgical anatomy of hernia is always a matter of consideration and study, and with very careful dissection, in a properly preserved or fresh cadaver, the ordinary points may be made out. I have myself, in some instances, been able to find all these coverings in the cadaver in persons who have not suffered from hernia during life; but my own experience is, that in those who have suffered from rupture during life, there is always more or less alteration of structure (even when there has been no strangulation), from the wearing of trusses, from an occasional incarceration, or from the frequent manipulation necessarily performed by the patient to restore or keep in position the refractory intestine or omentum. The integument, fascia, and peritoneum, and in the femoral, the sheath of the femoral vessels are readily enough recognized, but the inter-columnar and cremasteric fascia, the septum crurale and cribriform fascia, cannot in the majority of instances be discovered. Where strangulation exists, these layers of tissue need scarcely be looked for. The necessary exudation consequent upon the inflammation and strangulation destroys the relative position, nay, even the appearance of the parts, and the main object of the surgeon in operating must be *the recognition of the peritoneum.* These facts should be borne in mind by the inexperienced operator. Long ago they were recognized, and in Pott's * celebrated treatise, written now over one hundred years ago, I find these words, which are well worth recording: —

"However incredible or strange it may seem, yet I am convinced that operations have been performed, by the information obtained from books only, without any previous anatomical knowledge, any practice on dead bodies, and hardly any, if any, opportunities of seeing any operations performed by others on the living; how grossly must such an operator be deceived, on account of the rings, as they are usually but absurdly called, of the abdominal muscles," etc.

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* A Treatise on Ruptures, by Percival Pott. London, 1775, p. 232.

One point is deserving of consideration in this connection, and that is the relation of the epigastric artery to both the external and internal ring, a second being also the relative position of the same artery to the crural canal. These will be fully considered in the completed paper.

IV. DIAGNOSIS.

Of all considerations connected with hernia, the diagnosis is most important. As in many other disorders, a correct appreciation is often readily made out; indeed, I know of nothing more easily ascertained than the presence of an uncomplicated oblique inguinal hernia. The cough impulse, the disappearance of the swelling in the recumbent position, the inability to introduce the finger into the rings, satisfy the surgeon at once in regard to the nature of his case. All this is simple, yet on the other hand, there is nothing more difficult than to diagnose a complicated rupture; indeed, I have sometimes been puzzled to distinguish, especially in women, a femoral from an inguinal protrusion. It is well known that a femoral hernia turns itself upward and rides over Poupart's ligament; and when this is the case, and the hernia is irreducible, it requires great care and considerable time to get the gut sufficiently down, that the finger may be introduced into the inguinal ring, which in the female is much less open than in the male, and is sometimes difficult to find even by dissection. This fact may be made evident in the performance of the Alexander-Adams operation for shortening the round ligament, for uterine misplacement. I have known an hour being expended in the endeavor to find it.

In making out a diagnosis of hernia, it is hoped that those surgeons who have had difficult and perplexing cases, whether they were successfully treated or otherwise, will give their detail to the Bureau. There are many extremely obscure swellings on the thigh and in the groin, as well as in other portions of the abdomen, which simulate hernia, and to these especial attention should be directed. The simple forms of diagnosis also should be remembered. The order of differentiation might be made as follows: —

ORDINARY CONDITIONS REQUIRING DIAGNOSIS.

INGUINAL HERNIA.

The diagnosis between Inguinal Hernia .	*Direct* *and* *Oblique.*
The diagnosis between it and certain reducible swellings	*Congenital hydrocele,* *Hydrocele of the upper portion of the cord,* *Varicocele.*

INGUINAL HERNIA AND THE IRREDUCIBLE SWELLINGS.

Inguinal Hernia	*Abscess,* *Hæmatocele,* *Sarcocele,* *Enlarged inguinal glands,* *Ordinary hydrocele,* *Undescended testicle.*

Besides these points, there are extraordinary cases occurring from time to time which require diagnosis, which may occur in the experience of every practitioner to which attention should be directed.

ORDINARY CONDITIONS SIMULATING FEMORAL HERNIA.

Femoral Hernia	*Lipomata below the groin,* *The pointing of a psoas abscess,* *Varix of the saphena vein,* *Enlarged glands.*

Then should follow a brief description of the interesting diagnostic points in ventral, umbilical, diaphramatic, pudendal, and other hernia.

It must also be borne in mind that besides the retained testicle, other abdominal organs may lodge in the inguinal canal, and give rise to a protrusion that may be difficult to diagnose. Dr. E. C. Went mentions the case of an old woman, aged eighty-five, who had died of various senile disorders, who had worn a truss for years for a supposed inguinal hernia; the post-mortem examination revealed the right kidney in the canal, a portion protuding externally, with a short ureter, no pelvis, and connected by a firm fibrous band to the uterus.*

It is not well either to neglect the examination of apparently trivial cases, for hernia in some instances may be mistaken for simple orchitis; and a no less distinguished surgeon than Dr. Valentine Mott plainly stated that he was willing to stake his surgical reputation in a case presented to him by Dr. Post, of New York, that the patient was suffering from a traumatic orchitis, when, as the result proved, he had a large knuckle of intestine within the scrotum. And a still more remarkable case is reported by Vogt, in which there was a hernia of the stomach into the scrotum.

V. Taxis.

It is the opinion of the writer that taxis, in the majority of cases, is overdone, and performed often too roughly; that instead of restoring the intestine to its place, it frequently excites so much additional inflammation that further strangulation takes place, and the life of the patient is additionally imperilled. The proper pressure to be made should be *inversely to the course of the gut in its descent*, and in the majority of cases the limb should be so flexed, that those points at which stricture is most likely to be discovered will be relaxed. This appears to be the proper theoretical course to pursue; and yet sometimes, after this method has been perseveringly tried without any effect, by standing the patient straight up against the wall, and making the rings tense, the gut has been known to slip beneath the margins of the openings more readily than when they were relaxed. The complete inversion of the patient has been found very effectual, and in some cases by the surgeon, kneeling upon the bed, taking the patient beneath the knees, spreading the legs wide, and drawing the body of the patient upward upon the person of the surgeon, the gut will slip into its place. Many are the expedients that have to be adopted by the surgeon in endeavoring to replace the intestine, but in all of them, too much handling of the gut cannot be too strongly deprecated.

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* Medical Record, Dec. 20, 1884.

Sometimes, after manipulation, it is well to desist for a few hours, make hot applications to the parts, raise the foot of the bed, and administer nux vomica, veratrum, or arsenicum, before a renewal of the attempts be made. I am sure that I have seen, by such a method, so good a result, that an operation ready to be performed was rendered unnecessary.

VI. Medical Management.

A very important point, which requires the united efforts of the Bureau, is the treatment, by medicine or otherwise, of incarcerated and strangulated hernia. Very often practitioners have had valuable experiences in the medical management of hernia, which it is confidently hoped will be brought out in the discussion of this subject. A very interesting item regarding the use of coffee in strangulated hernia is mentioned by Sarra, who relates that he was called one evening to attend a man sixty-three years of age, suffering from a strangulated femoral hernia. The patient was nearly moribund, there was no appreciable radial pulse, the face was pinched, the extremities were cold, and the attempts to vomit were almost incessant. Happening to remember the report of a similar case relieved by coffee, Dr. Sarra ordered an infusion of this substance to be employed as a drink, and also externally, and then took leave of the patient, warning the family that death was inevitable unless a prompt amelioration ensued. Upon returning early the next morning, he was surprised to find his patient in perfect health. The man stated that soon after taking the coffee, he experienced a feeling of warmth and returning strength, then a large quantity of gas was expelled above and below, and when he put his hands upon the tumor, it at once slipped back into the abdominal cavity, much to his astonishment as well as joy.

VII. Herniotomy or Kelotomy.

As has already been noted, in operating for strangulated hernia, the traditional "seven anatomical coverings" need never be looked for; if they are, I pity the operator, for he will never find them. What he wants is to know the sac (peritoneum) when he comes to it, and to make up his mind whether he will divide the stricture (if he can) outside the sac; whether he will open the peritoneum and divide the constrictions within the sac, and what he will do with the sac, — whether he will return it into the abdominal cavity, whether he will ligate it and let it slough off, or whether he will tie it at its junction with the abdomen, cut it off, and secure its stump within the wound. From my own experience, if the peritoneum is not too blue and cold, and the stricture can be found outside, I would advise its division without the sac; then would follow the application of hot antiseptic cloths to the peritoneum, until vitality returns, after which it should be replaced within the cavity of the abdomen.

If, however, we find we cannot reach the stricture in this manner, then the peritoneum must be carefully slit upon a director, and the stricture divided within the sac; in such cases, if the peritoneum shows little vitality, and is gangrenous, it is best to bunch it up, tie it, cut it off, and secure the stump in the wound. I have even gone so far in cases of epiplocele as to cut away the entire protrusion, the patient making a good recovery.

There is a very important axiom that from my experience I can adduce, and it is this: After the strangulation of a hernia has been entirely relieved by operation, and the gut returned into the abdominal cavity, stercoraceous vomiting may continue and occur several times, thus giving great anxiety to the practitioner regarding the thoroughness of his operation. In such cases, the stercoraceous matter must have been in the stomach and duodenum prior to or during the operation.

VIII. Radical Cure.

Here again we require considerable experience in reference to the best methods. In most of these so-called radical methods, the patient is required to wear the truss, if not for the remainder of his life, for a very considerable time, so that these procedures are not by any means as satisfactory as we are often led to believe.

The operations of Gerdy, Wutzer, and Wood are all open to objection, the latter giving me by far the most satisfaction, until the adoption of the more recent method. We must be careful in studying these methods, not to confound the operation of Dr. T. Wood, of Cincinnati, with Prof. John Wood, of London, although they are on much the same principle. Dowell, of Texas, also has an excellent method, which may be successful. Jamison, of Baltimore, followed Dzondi's transplantation method, and the "local irritation and compression method" of Pancoast, Velpeau, Armsley, and Riggs have had their stanch supporters, but have sunk into oblivion. The two methods which are at present engaging the attention of the profession are: First, that known as the radical cure by cutting off the sac, or the "open method"; and second, the radical cure by the "Heatonian method." In the first, the incisions are made as in ordinary hernia, the gut is reduced, the sac being allowed to remain outside; it is then encircled with a ligature and cut away, the stump being secured in the ring, the pillars of which are united with silver wire. Czerny, in Heidelberg, in 1879, gave an account of this method, and Gross (the elder) of this country, having a case of large scrotal hernia, united the edges of the rings. The author of this paper has modified this operation, and he hopes with good results.

These, in the more elaborate paper to follow this synopsis, will be fully entered upon, together with the statistics of the new operation and its history.

The second radical cure method is that of Heaton. It is so well known that it need not be described here. It is very important for the proper appreciation of this operation that every one who has performed it should give his experience, and especially his results.

The formulæ for the fluid have been variously altered by Warren; these will be given in another place. The operation has also been modified by surgeons.

Heaton's method, though popular in this country and in Germany, has never been much in vogue in England. From my own experience, it does not bear out all that is claimed for it; for though I have succeeded in some cases, about one third, the balance have either had a return of the rupture after a space of from six to eighteen months' duration, or have had no permanent effect produced by the injection.

According to Dr. Schwalbe,* who has written in favor of the method, twenty injections are required to effect a cure, and the period of time extends from two months to a year. Lately, Mr. Keetley has operated upon eleven cases with complete success in all but two cases, which were somewhat benefited. Mr. Keetley makes something of a cutting operation combined with the injection method. The integument is incised down to the ring, and a director passed under the intercolumnar fascia; upon the director the nozzle of the syringe is passed, and a concentrated solution of white-oak bark is injected into the canal. After this is thoroughly done, the pillars of the ring are drawn together by two catgut sutures.

IX. The Truss.

The assumption that a truss is a means of cure is altogether denied by some, and as strongly maintained by others. The wearing of a proper pad, I mean by this a pad making a gentle pressure in the proper direction, not only is of absolute necessity to prevent the dropping down of the intestine, but will in most cases cure a hernia. I have in my mind the case of a medical man, who had suffered from hernia for years, and who had given the matter especial study; he had tried a great variety of trusses, and finally secured one which made an absolute and perfect cure of his case. This was over four years since, and there has been no return.

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* British Medical Journal, Sept. 19, 1885.

R S Bradford M D
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"How I Became a Surgeon,"

By William Tod Helmuth, M.D.

Eng^{d} by Geo E. Perine, N. York.

Wm Tod Helmuth

HOW I BECAME A SURGEON

By William Tod Helmuth, M. D.

REGISTER BOOK AND JOB PRINTING HOUSE, ANN ARBOR, MICH.

WILLIAM TOD HELMUTH, M. D.

THE POET SURGEON.

William Tod Helmuth, M. D., of New York City, was born in Philadelphia, Pa., October 30th, 1833. He is the son of John H. Helmuth of the same city. He received his education at St. Timothy's College, Baltimore, Md., where he went through to the senior year. In 1850, he commenced the study of medicine, under the preceptorship of his uncle, Dr. William S. Helmuth, then Professor of the Theory and Practice of Medicine in the Homœopathic Medical College of Pennsylvania. At this time Caleb Bently Matthews was Professor of Materia Medica, Francis Sims, Professor of Surgery; Dr. Freedly, Professor of Botany, and Dr. Walter Williamson, Professor of Obstetrics and Diseases of Women. He graduated in 1853, (writing on that occasion a thesis on the "Apocynum Cannabis") and immediately commenced the practice of his profession in Philadelphia. It was during his early life that he conceived that taste for surgery, which has remained with him from that time to the present. In 1854–'55, he officiated as Dispensary Physician of the Homœopathic Medical College; a report of his services, as such, is to be found in the *Philadelphia Journal of Homœopathy* for the latter year, edited by Drs. Gardiner and Small. During this period he was also Prosecutor of Surgery to Dr. Jacob Beakley. In 1855, being then 22 years of age, he was elected Professor of Anatomy in the Homœopathic Medical College of Pennsylvania, and, in the same year, he published a work entitled "Surgery and its Adaptation to Homœopathic Practice," consisting of 650 pages. During this time he was also a contributor to many literary periodicals.

In 1858, he removed to St. Louis, and, shortly after, became one of those who originated the Homœopathic Medical College of Missouri, in which institution he was offered and accepted the chair of Anatomy. He was subsequently elected one of the Surgeons of the Good Samaritan Hospital, a position which he held till he removed to New York City. In 1862, he published a monograph on "Diphtheria," which soon passed to a second edition. In 1866, he delivered the annual address before the American Institute, and in 1867, was elected President of that body, then holding its session in New York City. In 1868, with a view to perfecting himself in surgical science, he made a tour on the continent of Europe. In 1869, he organized the St. Louis College of Homœopathic Physicians and Surgeons, being its Dean and Professor of Surgery until he left the West. In 1870, he received a pressing call from his professional friends to take the chair of Surgery in the New York Homœopathic Medical College, being also appointed Surgeon to the Hahnemann Hospital and to the New York Surgical Hospital. As soon as his friends in St. Louis were apprised of his intention to accept these appointments, they gave a magnificent banquet in his honor, presenting him on that occasion with a complete service of silver.

Dr. Helmuth is a member of the American Institute of Homœopathy (its president in 1867), of the New York State Homœopathic Medical Society, the Homœopathic Medical Society of the County of New York, of which he has been president, a fellow of the Medico-Chirurgical Society, of which he has been vice-president, and an honorary member of the societies of Massachusetts, Rhode Island and Connecticut. In a late visit to Paris he was elected a member of the "Societié Médicale Homœopathique de France."

Amidst his professional duties he has managed to contribute many and valuable additions to homœopathic and other literature, both in prose and verse. In 1864, he started, in connection with H. C. G. Luyties, Esq., the pharmaceutist, *The Western Homœopathic Observer*, which he conducted during seven years, till he left St. Louis. He has also given to the public a valuable monograph on "Cleft Palate;" also, two other brochures, entitled "Interesting Surgical Cases" to the New York Society, and "Ten Cases in Surgery," besides many other monographs and miscellaneous literary productions, both in poetry and prose. In 1870, he removed to New York, entered upon the professional duties of the college, and became associate editor of the *New England Medical Gazette*. In 1873, he joined Dr. T. F. Allen in the editorship of the *New York Journal of Homœopathy*, the organ of the New York Homœopathic Medical College, conducted under the supervision of its faculty. During the greater part of this time he was busily engaged in the publication of his greatest work, containing about one thousand pages, and illustrated with over four hundred wood-cuts, entitled, "A System of Surgery," which is now in its fourth edition. His articles have been for the most part surgical; and in all the homœopathic journals are to be found his contributions to medical science.

Since his residence in New York he has, besides lecturing regularly and holding clinics at the college, contributed to general and surgical literature. Essays upon "Nerve Stretching," "Excision of the Rectum" with cases, "Reports of his Surgical Clinics," "A contribution to Gynecological Surgery" first published in the *American Journal* of *Obstetrics*, and an elaborate treatise on "Supra-pubic Lithotomy"—which operation Dr. Helmuth holds superior to all other of the *cutting* methods of removing stone from the bladder—have been given to the profession, while numerous interesting surgical cases coming under his observation and his knife have appeared in many of the medical periodicals. Besides these medical productions he has published a miscellaneous collection of prose and verse, entitled, "Scratches of a Surgeon" and a little weels, "A Steamer Book" designed for light reading when crossing the Atlantic.

Many of his poems are familiar to all, or at least to most of the homœopathic profession; one of the latest and best, "How I Became a Surgeon," was given at the banquet of the American Institute at Niagara Falls, June, 1883. Since the year 1855, he has lectured every year—save one, during the war, when all business was in a state of semi-dissolution—making nearly thirty years of active service in the lecture room.

It is believed that the first amputation recorded in the American homœopathic periodicals made by a homœopathic surgeon was reported by him. He has lectured every season, and has worked harder than any other man in the cause of surgery in connection with homœopathy.

He had no capital with which to start in life, but commenced unaided, after graduation, without a dollar. He has experienced the full meaning of hard work and hard knocks, having worked his way up from the bottom to the top of the ladder, by the sheer force of indomitable energy, dash, brilliant talents, and extraordinary skill in his chosen branch of science.

In 1859, he was married to Miss Pritchard, of St. Louis, by whom he has two children. Whatever may be the position to which Dr. Helmuth may attain, he can always carry with him the satisfaction of feeling that he is indebted for it to none but himself. Without interest or influential friends to back him, having no favoritism extended to him, he boldly grasped the difficulties of his position, determined to succeed, and has done so by an uncommon display of "pluck" in combination with rare ability. Although comparatively young, he has probably done more for surgery and its literature in the homœopathic school than any other man in the country.

HOW I BECAME A SURGEON.

In the year eighteen hundred and fifty-three,
A few months after I took my degree
(Which styles me a "regular" H. M. D.),
On the Institute books I enrolled my name.
Being young in years and unknown to fame,
(The inference there I hope you'll excuse);
Well, I borrowed the money and paid my dues,
Which, as far as my recollection can get,
I think I have not repaid as yet.

Be that as it may,
Without more delay
I went to the Institute that very day,
To hear what the old fellows all had to say.
Williamson, Hempel and Kirby and Gray,
Bayard and Joslin, McManus and Small,
Dake, Hering and Pulte, I heard them all.

Throughout that meeting I could not but feel,
That the spirit which ruled those men was—zeal:
Zeal for the system and zeal for the dose;
Zeal for applying *similia* close;
Zeal for the proving of medicine pure;
Zeal in proclaiming each wonderful cure.

My friends, 'twas this zeal, right be it or wrong,
That laid the foundation so broad and so strong
Of this Institute young—as it was in those days—
Now crowns it with glory and honor and praise.

Excuse the digression, the moments are fleeting,
And let me get back to that Institute meeting.

My nature's susceptible—very, I own it,
And years and gray hairs suffice not to tone it.
So the zeal of the rest
Enveloped my breast;
And as nothing but symptoms and provings would stand
At the meetings in those days, I too took a hand;

And to show to the members of science my love,
I asked the committee for something to prove.
After some months' delay,
On one beautiful day,
And if I remember aright 'twas in May,
There came to my office a nice little box,
With a nice little letter from J. Redman Coxe.
"Dear Doctor," he wrote, "I enclose you a vial
Of wondrous secretion; pray give it a trial.
The bottle is small, in unpacking don't break it;
The liquid is viscid; before you can take it
Heat gently, then wipe off the vial and shake it.
Then pour out exactly ten drops in a spoon,
And swallow it quickly, and if very soon
Queer symptoms develop—just write them to me,
As ever of old, your friend, J. R. C.
P. S.—If you knew all the trouble I had
In procuring a dog undoubtedly MAD,
You'd drink the solution with infinite pleasure
Regarding each drop as a wonderful treasure."

"Good gracious!" I said to myself, then a pause;
A stiff'ning sensation surrounded my jaws
I seemed to be looking at things in a fog
And the atmosphere round me smelt strongly of dog.
And just at that moment I felt that my zeal
Was ebbing quite rapidly out at my heel.
But I plucked up my courage and worked at my chin,
Its suppleness seemed as it ever had been,
And the thought flashed across me 'twere better that I
Should ask a few doctors this virus to try,
If bad opisthotonos came with each breath,
To end in convulsions and coma and death,
With meekness the pleasure to them I would give,
Enroll *them* as martyrs—and *I* myself live.

The difficult question was, who should I ask
To enter upon such a dangerous task?
Who would assit me to prove? was the topic;
Who, who would engage in the act philanthropic?
There was Kellogg and Talbot and Dowling and Cook—
I carefully noted these names in my book—
And Angell and Ludlam. I thought *they* might do,
At least, to develop a symptom or two.

Each man was ambitious and brim full of knowledge,
All eager for glory and just out of college.

Allow me to mention,
'Twas not my intention
To cause such a terrible sequel.
To tell it e'en now,
I truly avow,
I scarcely can find myself equal.

But I made a dilution as Boericke makes,
And gave to each vial just two hundred shakes,
Increasing succussion as, Jenichen did,
By pounding the vials on pads made of kid.
Then I sat down and wrote each of my friends:
"Dr. Helmuth's kind greetings this vial he sends
For a proving, and trusts that with infinite care
Each prover will give it a trial quite fair.
Must take it when fasting," I finally wrote,
"And as it develops each new symptom note.
'Tis slow in its action, as often appears,
For the virus is known to be latent for years,
But when the zymosis you once can detect
The prover will never know what to expect.
Be careful in using." In closing I said,
"No more is obtainable—Doggy is dead."

My letters were posted and day after day,
I waited to hear what the provers would say,
Not a line, not a symptom, however, appeared.
My reason was staggered; I really feared
That though I was acting as sly as a fox,
That I might be victimized sadly by Coxe.
The virus most certainly taken they had,
But nobody yet seem inclined to go mad.
So I musingly muttered, "These provers won't die,
They took it—I alter my mind—so will *I*;"
And immediately swallowed a dose of the same
As my friends who were patiently waiting for fame.
Yet tortures terrific we had to endure—
Incubation was slow zymosis was sure.

Remorse consumes my soul to-night,
When I, in guilt arrayed,

Behold, oh, dreadful, dreadful sight!
  Those wrecks that I have made.

Those lovely youths, so fair and true,
  Great gifts of promise had;
No matter how they seem to you
  They are all raving mad.
The briny tears course down my face;
  The deed, indeed I rue it;
And though a melancholy case,
  I did not mean to do it.

KELLOGG'S PROVING.

Kellogg took the first dose—he sits over there—
He rolled in convulsions and lost all his hair;
By turns grew facetious, then solemn, then cunning,
And finally took to atrociously punning.
He barely recovered—an imperfect cure;
Now, he's constantly crying: "*Insure men, insure!*"

TALBOT'S PROVING.

On Talbot it acted quite strangely, poor fellow!
My oldest companion grew dropping and yellow.
He ran off to Boston one night by the boat;
The very next morning he cut a child's throat,
Then departed for Europe, and since he came back,
Has continued at windpipes of children to hack.

DOWLING'S PROVING.

Ten drops at a dose given twice to young Dowling,
Gave symptoms quite pathognomonic and howling;
Developed so quickly that I grew afraid,
That in dosing himself a mistake he had made.
His body began very soon to expand,
And his heart grew the biggest in all of the land.
The Institute knows it, so why need I tell
What Lake George and New Brighton remember so well.

COOKE'S PROVING.

The strangest developments came from our Cooke;
He thirty-five drops of the medicine took;
From being loquacious he grew quite laconic,
And then was overwhelmed with a mania masonic,

Society's devil, he laid up in chains;
Now carbolic acid for cancerous pains
Is the latest of symptoms; they all have been queer,
And brake out quite suddenly year after year.

AN ANGELL'S PROVING.

On Angell, with whom many songs I have sung.
At midnight, by lamp light, while yet I was young.
The virus but one single symptom defined;
'Twas pity for those who were going it blind.
In his letter he states, "that he'll certainly try
To put all he knows into somebody's eye.
He was writing a book and its title would be
Instructions to people to healthfully see,"
It finally came, as you all may have seen;
'Twas published by Campbell and done up in green.

LUDLAM'S PROVING.

When Ludlam was young he was shy of the girls;
Would blush to his eyes at a shake of their curls.
If him you desired to worry and vex,
'Twas only incumbent to *mention* the sex.

I find from my book,
In toto it took
Five drops to develop a genius,
So new and complete,
Each woman he'd meet
He declared was an absolute Venus.
From that time to this, all he says or he does
In public, or private, or lecture-room "buzz,"
Has only one object and only one aim,
The attempt (tho' 'tis futile) the fair sex to tame,
He carried them round like an autocrat Turk,
To list to his teachings and help in his work.

THE AUTHOR'S PROVING.

But listen, my friends, how it acted on me:
I went into fits, and then went on a spree,
And when I recovered I scarcely could see;
From that very moment my pretty left eye
Close up to the internal canthus did lie,
And there it remains by day and by night,

Impairing my beauty and marring my sight.
Strabismus convergens, if but in one eye,
Is a source of most constant discomfort, and I,
Beholding the wreck of those beautiful boys,
Saw them losing their reason, deprived of the joys
Of exuberant manhood, and shrieking with pain,
Said "*damn it.*" Excuse me; I never again
For friendship, or science, or money or love,
Will ask your committee for something to prove.
I did my whole duty, have had quite enough;
Give somebody else all your poisonous stuff.

Then, then it was, fellows, I first saw the light,
And surgery beautiful dawned on my sight.
I studied its present, I delved in its past,
And found what my spirit had yearned for, at last.
Found science and art in proportion so grand,
The effort of mind with the dexterous hand,
Combining themselves with such exquisite care,
And yielding results so remarkably fair,
That I bowed down in silence and bended my knee,
And claimed the department belonging to me.
I saw what I thought was my pathway in life,
Discarded all provings and stuck to the knife;
And though I've been fairly successful, 'tis true,
There's one thing in cutting I never can do.
I may cut out a bone or extirpate tumors,
I may amputate limbs and evacuate humors,
Kill every bacillus and aspirate sacs,
Apply plaster jackets to carious backs,
Make beautiful noses by art rhinoplastic.
Cure pulsating tumors with bandage elastic,
I may stretch every nerve, perform herniotomy,
And advocate still supra-pubic lithotomy,
I may do all this cutting with ecstacy—but
I never will dear old acquaintances cut.
And I hope in return that wherever I be
No dear old acquaintance will ever cut me.

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Ten Cases in Surgery.

BY WILLIAM TOD HELMUTH.

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TEN CASES IN SURGERY.

By WILLIAM TOD HELMUTH, M. D.

OF ST. LOUIS, MO.

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H. Freund
[illegible]

TEN CASES IN SURGERY.

I. Amputation of the Thigh.
II. Amputation of the Thigh.
III. Removal of the Superior Maxillary Bone.
IV. Rhinoplastic Operation.
V. Fibroid Polypi of the Uterus.
VI. Polypus of the Rectum.
VII. Tumor of the Left Mamma.
VIII. Resection of the Tibia.
IX. Resection of the Elbow Joint.
X. Lithotomy.

CASE I.

Amputation of the Thigh.—A girl aged fourteen years, who, for the past four years, from an injury received on the knee, became affected, as I shall detail.

The patient had been under the care of many physicians before she came to the hospital. The swelling of the knee joint was enormous. The tumefaction was not hard but doughy. On each side of the sesamoid the swelling was rather more protuberant and softer. The affected leg was scarcely one-third the size of the other. It was much diminished in temperature, being almost as cold as in death, and blue and mortified in appearance. All these symptoms indicated serious disease of the cartilages of the knee-joint, with more or less accumulation of fluid in the cavity of that joint. There was, evidently, some fluid in the joint, which I was disposed to believe was serum, I was fearful, also, that there was degeneration of the cartilages. The joint was perfectly useless, and motion of the leg impossible; in fact, it was a useless incumbrance, and demanded amputation. Figure 1 gives a good representation of the leg. Before, however, I resorted to this, I explored the swelling by means of a very fine trocar and canula, but as nothing passed through the canula I examined further in the following manner: Taking a knife with a long slender blade, sharp and double edged, I introduced it as far away from the site of the disease as possible, and passed its point into the cavity. A bloody fluid, small in quantity, but thick in consistence, flowed from the wound.

I then placed the patient on good diet, and administered hepar $sulp^3$ every three hours. On the second day after the exploration, the whole leg began to swell and became erysipelatous, accompanied with high fever, flushed face, delirium, thirst, and all those symptoms of severe constitutional disturbance which are generally observed with erysipelas. I was not only alarmed for the welfare of the patient, but for that of others in the house who had undergone operations of various kinds.

I may here call attention to the peculiarly contagious character of erysipelas in a hospital, or rather susceptibility of those suffering from wounds to the disease. I well recollect my consternation when, after having performed a resection of the elbow joint before the class in our college, on going through the wards I found a case of erysipelas in a little girl in one of the lower rooms. Although every precaution was used, on the next day symptoms of the disease developed themselves in a boy from whom I had removed a half of the inferior maxillary bone about ten days previous. The patient from whom the elbow joint had been exsected died about the twelfth day. In the case of the little girl, I administered $belladonna^{30}$ every two hours, and in a few days she was able to undergo the operation of removing the limb.

I shall now describe the operation. Having selected a point about the middle of the thigh, I pass a long double-edged knife above, and close to the bone, and bring it out to form a sufficient flap. The inferior flap is formed in like manner. The two-tailed retractor is now placed upon the flaps, and the saw applied to the bone. The hemorrhage was promptly arrested by the pins, which were removed on the morning of the third day, and though the tissues were somewhat infiltrated, the patient made a good recovery, grew fat from the time the operation was performed, and left the hospital shortly after. Upon a dissection of the leg, the condyles of the femur (figure 3), and the upper part tibia (figure 2), were found very much affected, the cartilages and ligaments much degenerated, and in part entirely destroyed.

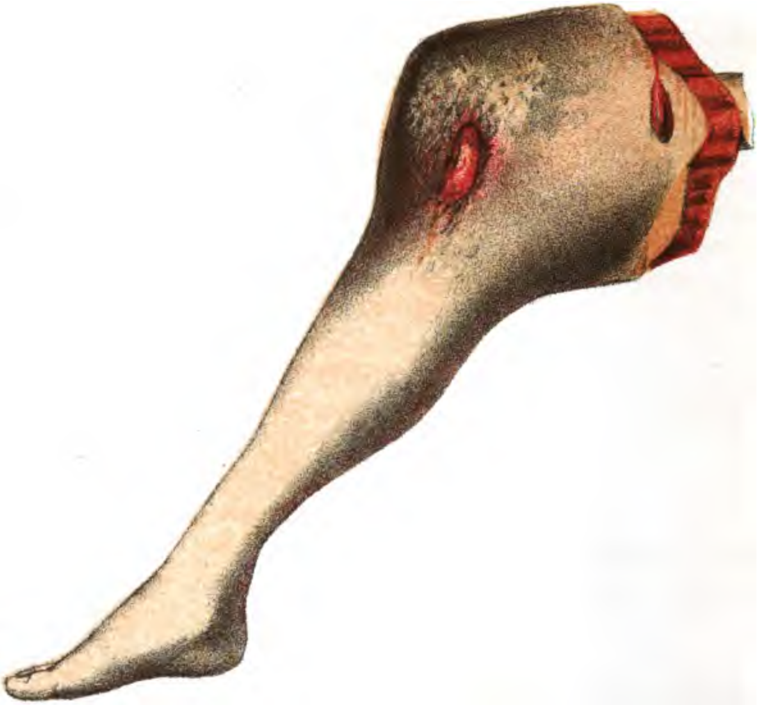
The following table is from Professor Simpson's work on the subject, and will be of service, as showing wherein he considers the superiority of acupressure over delegation to consist:

Comparison between the Ligature and Acupressure.

Ligature.	*Acupressure.*
1. Requires isolation, and consequently some detachment of the end of the vessel from its vital organic connections.	1. Requires none.
2. Produces direct mechanical injury, bruising and lacerating of the two internal coats of the artery.	2. Produces none.
3. Produces strangulation of the external coat.	3. Produces none.
4. Leads on inevitably to ulceration or molecular destruction of the external coat of the constricted part.	4. Produces none.
5. Causes mortification of the artery at the tied point, and usually below it.	5. Produces none.
6. Produces, consequently, as many sites of ulceration and suppuration, and as many dead, decomposing sloughs in each wound as there are arteries ligatured in that wound.	6. Produces none.
7. If organic, as of silk or hemp, it imbibes animal fluids, which speedily decompose and irritate the surrounding living structures.	7. Requires only impervious metallic needles or threads, which are incapable of imbibing animal fluids.
8. Requires to produce the three highest stages of inflammation at each ligatured point, viz.: Ulceration, suppuration and mortification.	8. Requires to produce inflammation up to the stage of adhesion only.
9. Is not removable, except by slow ulceration and sloughing of the ligatured vessel, and requires a period of from four or five to twenty days or more for its separation.	9. Is removable in an hour or two, or in one, two or three days, at the will of the operator.

10. Stops only the artery tied.	10. Stops generally, both artery and vein.
11. Stops only one artery.	11. May close two or more smaller arteries by means of a single needle.
12. Generally requires two persons for its application.	12. Requires only one person.
13. Is sometimes followed by secondary hemorrhage, as an effect of sloughing and ulceration.	13. Is seldom followed by secondary hemorrhage from ulceration or from sloughing, as it produces none.
14. Sometimes fails altogether in cases of recurring secondary hemorrhage.	14. Has succeeded under such circumstances where the ligature has failed.
15. Sometimes cannot be applied until the surgeon first exposes the bleeding vessel by dissection with the knife, as in vessels retracted in amputations, in wounds of the wrist, etc.	15. Does not necessarily require the exposure of the vessel, and therefore often prevents the necessity for antecedent dissection by the knife.
16. Prevents, as a foreign body, adhesion of the sides and lips of the wound by first intention, in the course of its track, as long as it remained.	16. Is early withdrawn, and is hence far less opposed to primary union.
17. Is apt, as an irritant body, to disturb and upset the process of primary adhesion in its vicinity.	17. Is early withdrawn and has no irritant effect.
18. Unavoidably creates within the depths of the wound pus, sloughs and putrid materials, which are locked up and applied to the imbibing or absorbing cut surfaces of the wound.	18. Does not create nor apply any dangerous putrifying materials to the fresh, absorbing surface of the wound.
19. Places the wound, therefore, in a very dangerous local hygienic condition.	19. Places the wound locally in far healthier hygienic conditions.

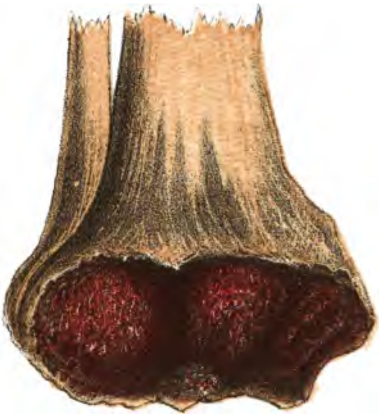
Fig 1.



Appearance presented by the
limb after amputation.

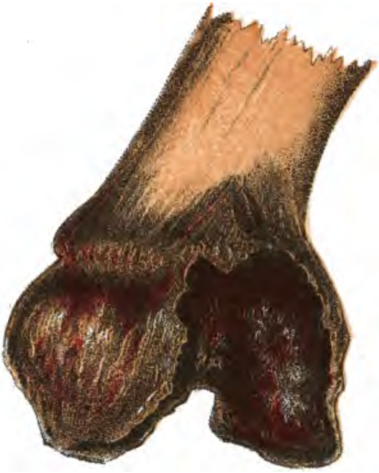
Argus Co. Lith.

Fig. 2



Amputation of the thigh
for caries of the knee joint.

Fig. 3.



Amputation of the thigh
for caries of the knee joint.

Argus Co. Lith.

20. Is not unfrequently followed by surgical fever, from its leading to the formation and absorption of septic matters from the surface of the wound.	20. Is much less likely to be followed by surgical fever, because it does not lead to the formation of septic matter, and closes the veins as well as the arteries.
21. For these various reasons it makes primary union rarer, healing slower and heptic, or surgical fever, more frequent.	21. For these reasons it makes complete primary union more frequent, healing quicker, and heptic, or surgical fever, less common.

With these remarks, I will proceed to designate the different kinds of pins used for acupressure. They may be divided into three varieties: First, the steel pin, about four or five inches in length, which has been electro gold-plated, with a glass head; these are generally used for the larger vessels. Second, an ordinary sewing needle, threaded with iron or silver wire, or with silk. Third, a simple loop of iron wire, four or five inches in length. Mr. Simpson gives three methods of application, as follows: The first consists in passing the long pin through the integument, bringing its point out beside the mouth of the bleeding vessel, passing it, the pin, over the open orifice, and entering its point on the other side. He aptly illustrates this method by comparing it to the method of pinning the stalk of a flower upon the lapel of our coat. The only portion of the pin which is exposed within the wound is that part which bridges over the mouth of the artery. In the second method, the common sewing needle, threaded with a short piece of iron wire, for the purpose of afterward retracting and removing it, is dipped down into the soft textures, a little to the side of the vessel, then raised up and bridged over the artery, and then being dipped down again, is thrust into the soft tissues. In the third method, the needle is passed below the artery, and a noose of wire is thrown over its point, and then, after being carried across the mouth or side of the vessel, is passed round the eye-end of the needle and pulled sufficiently tight to close the vessel.

Case II.

Amputation of the Lower Third of the Thigh for Caries of the Knee-Joint.—I——U——, aged about twenty-one, entered the Good Samaritan Hospital during the month of February in a deplorable condition.

Some four months since, while engaged in chopping wood, he cut his knee with the axe, and having bound up the wound walked home. That night the whole leg became much inflamed and very painful, and a physician was sent for. The leg was poulticed, the bowels purged, and the usual allopathic routine continued.

The young man was an apprentice; was poorly fed and poorly attended to, and was attacked with an intermittent fever, which prostrated him to a degree. Rapid emaciation together with increased suppuration followed. The abscess was not lanced; the pus burrowed in various directions; the capsule of the joint was involved, and in this condition he was brought into the hospital.

There were five sinuses in the thigh discharging fetid matter, and from an orifice on the left side of the patella a glairy fluid exuded, which evidently proceeded from the joint itself.

The "question of amputation" here became a very serious one. He was rapidly failing; the probe indicated caries of the articular extremities of all the bones entering into the formation of the knee-joint. His emaciation was increasing, and his appetite gone. Would he bear the shock of removal of his leg? Should a resection of the knee be attempted? How long would he live after the operation? These were the questions that had weight in my mind. I was well aware of one fact, and which was well illustrated in the case of amputation of the thigh previously reported in this paper, viz.: That frequently after the removal of a diseased part, although the system at *the time of the operation* may be in a very debilitated condition, yet the source of irritation being taken away, nature at once begins the process of reparation. The chief facts that deterred from resection were these:

1. The excessive emaciation of the limb.
2. The very soft condition of the muscular fibre.
3. The numerous cavities and sinuses which had been formed by pus that had been denied outlet, and
4. The time that would be required to allow the wound, after the resection, to heal.

These circumstances, taken together, appeared to favor amputation, and, therefore, on the third of April, in the presence of the private class, and assisted by Doctors Hartman and Morrill, I proceeded to remove the limb at the junction of the middle and lower third of the thigh, by the anterior and posterior flap operation. As the catlin passed through the quadriceps, a gush of pus took place from between the muscular sheaths; the posterior flap was made longer than the anterior, and the bone sawed through in the usual manner. The removal of the deceased limb occupied about a minute. I applied an acupressure pin to the profunda femoris which arrested the hemorrhage from that vessel; but although I twice placed a good sized acupressure pin across the femoral (which for a short time arrested the bleeding), yet there had been so much suppuration, and the parts were so softened by infiltration, that ligatures had to be applied. This teaches an important fact regarding acupressure. The flaps were brought together, and the stump looked well. For a time every thing appeared to prosper; the patient was in good spirits; the healing process appeared to be progressing; the ligatures came away in good season; the acupressure pin was removed in twenty-four hours. After the operation, the appetite began to return, and I was about to congratulate myself upon a recovery. But night sweats came on, cough, mucus rales, expectoration, colliquative diarrhœa and hectic finally ended the life of the patient.

Upon an examination of the bones, the whole joint was found to be very seriously involved in the disease. The condyles of the femur were in a complete state of degeneration; while the head of the tibia was also extensively diseased. (See figures 2 and 3, Case I.)

Case III.

Removal of the Superior Maxillary and Turbinated Bones.—This case is one of peculiar interest, and one presenting some points for careful consideration, not only on account of the disease for which the operation was performed, but also in the apparently rapid recovery of the patient.

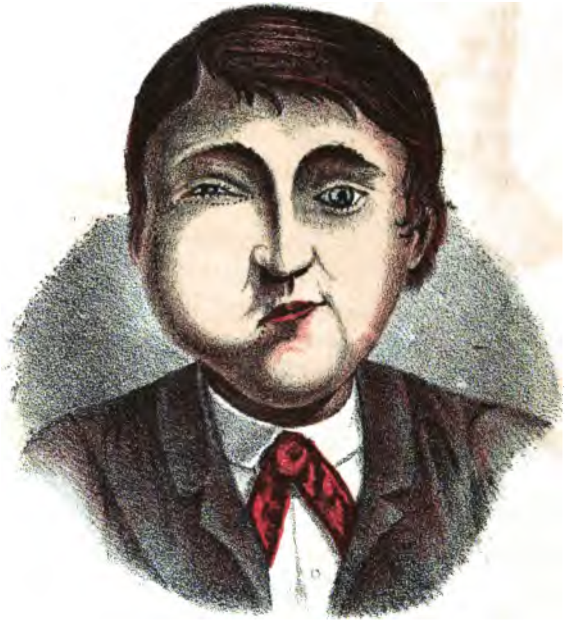
Joseph Vogl, age forty-nine, entered the Good Samaritan Hospital at my suggestion on account of a peculiar tumor involving the upper jaw of the right side, extending downward and forward into the mouth, forcing forward the alveoli and the teeth contained therein, and growing, according to the statement of both the patient and his wife, with amazing rapidity. (Figure 1.) The tumor was turned toward the left side, and the lower eye-lid drawn somewhat downward. The mass that could be seen by drawing the cheek aside, resembled in many respects the gum from which it appeared to grow; never bled excepting after severe handling and then but slightly; had a peculiar odor, but not that which belongs to encephaloid disease, and appeared to involve the whole bone, excepting the orbital plate, extending upward to the articulation of the nasal bones. The patient's health was rapidly failing, and I advised an immediate operation as soon as the system could sustain the shock.

The diagnosis was difficult to make out. There was an absence of symptoms which generally belong to malignant tumor, and that part of the growth which was capable of being examined presented many appearances of epulis. My first impression was that it was the latter named disease, but in reading over "The Surgical Observations" of John Mason Warren, I recollected a passage which I think led to the correct diagnosis of this case. The lines were as follows, page 64: "Myeloid tumors in the jaw are rare, and at a late stage of their existence are *often distinguished with difficulty* from that external affection called epulis." Further research justified the opinion, and the examination of the diseased mass since its removal has put the question beyond doubt.

The question as to the malignancy of the tumor was first to be considered, and many of the features which I have found to belong to the so-called heterologous growths were absent. Thus there was entire absence of hemorrhage; lack of proneness to ulceration, which is very characteristic of malignant formations, together with the appearance presented by those parts which could be examined (which, in homologous growths, is, as a rule, similar to some of the textures of the body on which the formation is found), and the healthy appearance of the integument covering the mass. On the other hand there was an amazing rapidity of growth, some fœtor, general depression of vitality, and other symptoms which were of serious import. Now, a myeloid tumor is one which, in appearance, resembles, after slight maceration, common suet. The growths generally occur in bones and in cancellated structure; on section they present reddish or even purple spots in their texture, and present a similar external appearance to epulis. According to Mr. Paget, "they grow slowly and without pain; generally commence without any known cause, such as injury or hereditary predisposition; bear considerable injury without becoming exuberant; they are not apt to recur after complete removal, nor have they, in general, any features of malignant disease."

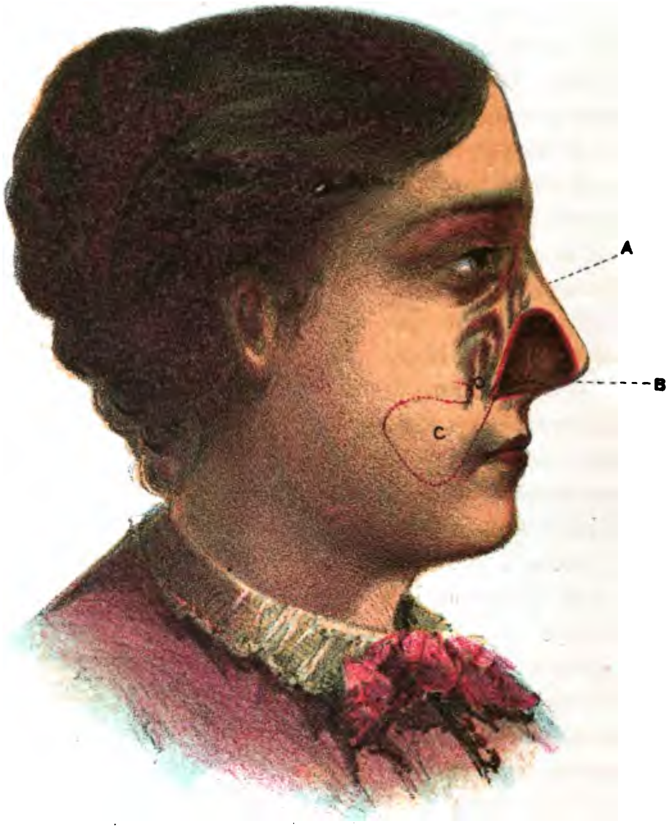
Dr. Gross differs somewhat in his opinion regarding these growths, and his words are so expressive that I shall quote them. He states "that the myeloid tumor is rather rapid in its growth, occurs in both sexes at different periods of life, but more commonly in the young

Fig. 1.



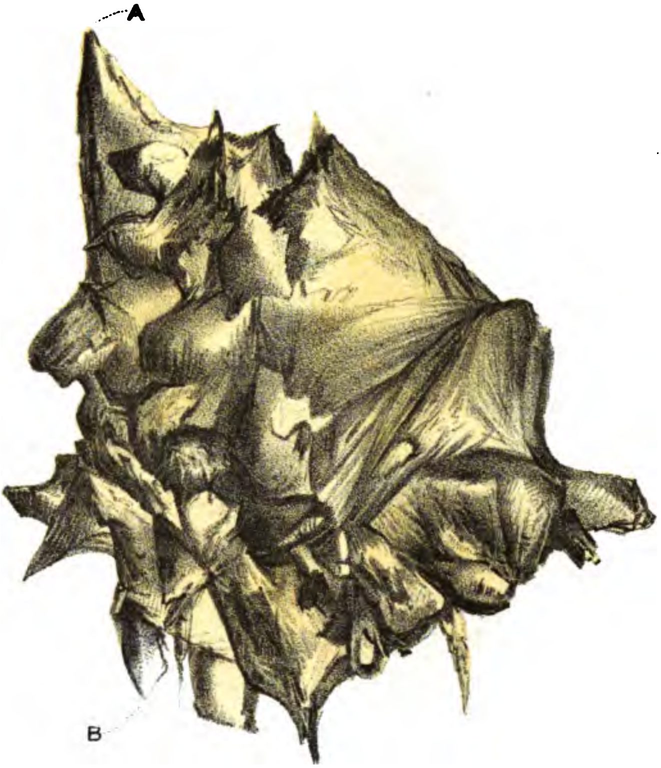
External appearance of Myeloid Tumor. Removal of the Superior Maxillary Bone. The dotted Line represents the Course of the Incisions.

RHINOPLASTIC OPERATION



A. Cicatrix formed by ulceration from use of caustic.
B. Destruction of the entire ala nasi of the right side
C. The flap
D. The pedicle

Fig. 2



Internal Surface of Myeloid Tumor of the Superior Maxillary Bone. (Actual Size.)

A A. Portion of the nasal process
B. Canine tooth

and middle aged than in the old, and is capable of attaining considerable bulk. From its tendency to destroy the structure in which it is developed, and from the fact that it occasionally displays a malignant tendency, recurring after extirpation, and ultimately causing death, there is strong reason to conclude that it is merely a modified form of encephaloid or fibro-plastic growth. Nevertheless, in the existing state of science, we are not warranted in expressing a very positive opinion regarding the true nature of the disease." These remarks are very applicable to the case in question, and the appearance of several fibrous polypi attached to the nasal bones would appear to demonstrate the fibro-plastic nature of the diseases, with a tendency to degeneration. After a careful consideration of the facts, and some research as to the advisability of the operation, I felt myself justified in removing the bone.

On the 13th day of March, at the hospital, assisted by Drs. Comstock, Franklin, Vastine, Morrell, Shaver, and a number of students, the operation was thus performed:

The patient was laid upon a bed, with his shoulders and head elevated, and the affected side toward a good light. This is the position advised by Dr. Gross, and really insisted on; but I am persuaded that the upright position in a stout chair is a better posture, preventing the flow of blood into the fauces. After this the patient was thoroughly brought under the anæsthetic influence, and an incision was commenced at the angle of the mouth and carried around the cheek to the zygomatic arch; a second cut was then made parallel to the border of the lower lid, to the lateral margin of the nasal bone of the right side, and the flap dissected up. The zygomatic arch was then divided, partly with the saw and partly with the bone pliers. The mass was then separated from the orbit, and the division effected through the palate with the pliers. By seizing the tumor with Fergusson's forceps, and depressing it, the tumor was taken away (Figure 2). Parts of it, however, were found adhering to the under surface of the nasal bones, and the growth had invaded the left alveolar processes. This was cut away with pliers, and several polypi, one of them quite large, was removed from the upper part of the wound. The appearance presented by the wound was rather revolting, and a considerable quantity of blood was lost during the operation, though there were but three vessels (the largest being the internal maxillary) which required ligature. I was in considerable doubt whether the patient would survive the operation. The wound was brought together by several points of suture, and the patient put to bed.

Five o'clock, P. M.—Had vomited much; large coagula in the vessel; feeble pulse, but quite conscious. Ordered moderate stimulus and a grain of opium at night.

14th.—Better; great palor of countenance; no more vomiting; passed a fair night. Applied staphysagria in solution, one part to ten, to the wound. Ordered beef tea three times daily.

15th.—Some gaping of the wound under the eye; removed two silk sutures and applied silver ones. Ordered generous diet.

20th.—Removed all the sutures; suppuration within the mouth. Ordered injections of calendula and water; fed the patient well; he is sitting up; good action from bowels.

23d.—Wound healing, except beneath the eye; pared these edges and introduced two hare-lip pins.

28th.—Immense swelling of parotid, with redness of the part; healing process apparently arrested by diseased action elsewhere. Mercurius prot.[2] every two hours; removed all wet dressings; put the patient on half diet; continued the injections of calendula.

29th.—Redness subsiding, but neither the swelling or hardness of parotid abating. Baryta carb.[3]; three grains every three hours; diet same.

30th.—Swelling and pain abating; continued treatment.

April 6th.—Improving. From this date the patient improved; had an excellent appetite. There is comparatively little deformity, and he left the house about the middle of the month with every prospect of present recovery.

May 21st.—Visited me to-day. There is as yet no tendency to re-appearance of the disease, and he is now doing his daily work. I am quite anxious to see whether the disease will return, but at all events I am satisfied that his life has been prolonged by the operation. An examination of the tumor shows its peculiar "marrowy" or "suet-like" character. The purplish spots on its interior, and a destruction of much of the bone on which it was seated indicate it as myeloid.

CASE IV.

Rhinoplastic Operation.—Mrs. T——, a middle aged and respectable married lady, applied to me to ascertain if any means could be devised to remedy a deformity of the nose which was produced in the following manner:

She had some time since a painful tubercle on the right ala nasi, which had caused her much worriment of mind; and being fearful of malignant disease, she had consulted a cancer doctor (?) who applied a paste which took away the tubercle, and with it, the whole ala of that side, causing a severe ulceration, which had extended to the internal angle of the eye. This solution of continuity had healed, leaving an ugly cicatrix, which may be seen upon referring to the plate, A. I explained to her the nature of the operation which could be performed for the restoration of the absent ala, to which she eagerly assented and which was performed on the second day after our interview. The edge of the gap next to the face was very thin; indeed, was formed of a portion of the cicatrix already mentioned; while toward the tip of the nose the border was full, healthy, and prominent. The trouble, if there should be any, would evidently be at the thin margin during the process of cicatrization.

The operation was thus performed: Before she was brought under anæsthetic influence, a piece of paper was laid over the nose and cut the exact shape of the cavity, being made, however, one-third larger all around. This was turned back upon the cheek and its outline marked with a pen and ink, indicated by dotted lines, C. The patient was then rendered insensible and the flap dissected up, leaving a pedicle, D. I did not, however, make an incision perpendicularly through the tissues to the cellular substance, but entered the scalpel *in an oblique* direction, thus making a beveled edge around the entire flap, leaving the pedicle as near as possible to the ala nasi. In a similar manner the edges of the entire gap were refreshed, thus making two tolerably broad raw surfaces. The flap was then twisted to its place and secured by pins of pure silver, around each of which a single turn of silk was passed. The ends of the pins were then cut with the nippers, and when fully recovered from the anæsthetic the patient was allowed to return home. On the third day after, I visited her and removed two of the pins and applied a strap across the face and over the nose, extending from one cheek to the other. In two days I removed the remaining pins and a single suture which I had applied to draw the flap close down to the septum. The recovery was complete, and the astonishing manner in which the new ala has been rounded off by nature, and the almost imperceptible scar which remains from the wound in the cheek, render the operation one very satisfactory both to patient and surgeon.

CASE V.

Fibroid Polypi of the Uterus.—There is often a peculiarity in the manner in which a number of similar cases come upon the general practitioner. We pass weeks and months without being called upon to treat a particular disease, and when finally one is presented, several frequently follow in rapid succession. This, I believe, is the experience of every practitioner either in medicine or surgery. These remarks were further corroborated by the opportunity afforded me for removing two fibroid polypi on the same day, during the month of April.

At different times I have had occasion to take away polypi of different sizes and of the different varieties as classified by Rokitansky. In the British Journal of Homœopathy for 1865, p. 538, can be found a paper in which I have endeavored to describe these different species.

The two cases which I now record were of the first variety, and were distinguished by those marks which belong to their species, viz.:

1. Smallness of size.
2. Spherical or spheroidal shape.
3. Density.
4. Hardness.
5. Poverty of vessels.

These tumors had been growing for some time. In the one case, that of the younger patient, there were the usual symptoms leading to such diagnosis, viz.: Hemorrhages, which were sometimes very profuse and exhausting; constant nausea, but no vomiting: constipation of the bowels, furred tongue, and some emaciation. In the second case, quite an elderly lady, there were none of the above symptoms at all; the only indications of anything abnormal in the entire system being *frequent* and violent *palpitation of the heart* and profuse bland leucorrhœa.

There was no hemorrhage, no nausea nor other unpleasant symptoms save those noted. I had carefully examined her heart, and was certain that its palpitation and irregular action were entirely sympathetic, and fancied the reflex action to come from the stomach. An examination per vaginam revealed the difficulty.

Now the difference in the symptoms of these two cases is instructive, and the rationale can be found in the position of the tumors. In the one, that of the younger, the tumor was in the uterus, beyond its neck, and for a long time beyond the power of touch; as it grew, however, it gradually expanded the os uteri, and finally a hard globular mass, about the size of a small lemon, could be detected after a most profuse and dangerous hemorrhage. It was my intention to seize this with the clawed forceps, draw it downward to the vulva, place around the stalk the chain of the écraseur, and remove it as on previous occasions. The latter portion of the operation was not necessary. By twisting the mass and making gradual traction to draw it without the vulva, it came away with a profuse hemorrhage. This was on the 8th day of April; and to-day, the 22d of June, I have had the pleasure of seeing the patient entirely restored. Since the operation, she has been taking, every night, calcarea carb.[6]

In the second case, the tumor was almost entirely in the vagina, and was somewhat of similar nature to that removed from a patient of Dr. Bolton, of Rushville, and recorded as before mentioned. The removal of this growth was more tedious and troublesome than the former. The patient was advanced in years, and, suffering from the frequent palpitations before noted, would not consent to the use of anæsthetics. I concluded, therefore, that it would be less painful to pass a needle, armed with a double ligature, through the pedicle, and having tied it on each side of the stalk, to sever it with the bistoury, than to go through the slow and painful process of crushing through the pedicle with the chain of the écraseur. After some difficulty, this was effected. The patient recovered well. She is now taking the bromide of potassium[10] and has had pure nitric acid applied four times to the remains of the pedicle. At present she is at a watering place in the East.

CASE VI.

Polypus of the Rectum.—I was induced to give the bromide of potassium in the above instance on account of its remarkable action in the following case. The patient, a woman of twenty years of age, admitted into the Good Samaritan Hospital January 25, 1869, had never menstruated, was short of stature, and dwarfish in appearance. She stated that eight years ago she had suffered from a red bleeding substance in the rectum which had been removed by a physician, but that similar growths had apparently returned. She was pale and sickly-looking, though not much emaciated, but was troubled with a constant diarrhœa and more or less tenesmus and the passage of a good deal of blood. Upon a mere external examination of the parts, nothing particular could be noted; but upon desiring her to attempt to expel the contents of the rectum, there would protrude several elongated bodies, resembling earth worms in shape, but of a much more brilliant red color. They presented a soft, vascular, shreddy appearance, bearing some resemblance to sarcomatous growths. With this expulsion there was always a yellow, very fetid discharge. Upon examination of the fæces they were flattened, and there was flatulent distention of the bowels. Knowing the value of the bromide of potassium in the removal of several varieties of morbid growths, I determined to try the medicine upon this patient. I gave the following prescription: R. Potassii bromidi 1 drachm; Aquæ fontanæ 6 ounces; M. ft. sol. Dose: A tablespoonful three times daily.

She continued this treatment from early in February until the middle of May. She began to improve in health shortly after taking the medicine; the diarrhœa ceased; she performed household duties in the hospital, and on the 13th of May, though the fetid fluid was expelled, she was unable to protrude any polypi. The remains of the growths could be felt, but otherwise the patient was in good health. I had endeavored to draw down these polypi and ligate them, but they were too friable, and broke away so easily that I gave up the attempt.

Case VII.

Tumor of the Left Mamma.—Sometime since I was consulted by a lady from the country. She was in quite an agitated frame of mind, having just come from the consulting room of an eminent surgeon, who had informed her that the tumor was scirrhus, and that removal by the knife was the only resource. Upon the left mamma, just below the nipple there was a hard round tumor, moveable, not painful upon pressure, but somewhat sensitive. It had been noticed for several years, but had not increased in size until the past six months. It had then gradually enlarged and had caused her much uneasiness. She had occasional shooting pains, but no other definite symptoms belonging to cancer, and so she was informed. She was entirely averse to the use of the knife and desired medical treatment. The first prescription was calcarea carb.^{6} of which she took one powder every night for three weeks. She then returned to say there was no improvement. I ordered her then conium^3 to be taken every night and morning for two weeks, then every night for two weeks, and afterward every other night for the same length of time. I also ordered a few drops of the tincture of the same medicine to be rubbed upon the part each night. In four weeks she returned to say that she thought she was better. Upon examination, there was no lessening in volume, but the swelling was much softer. The treatment was continued, and in three months the growth had entirely disappeared.

I may mention here that the same treatment has subsequently removed a similar tumor, of some time standing, from the axilla of a lady somewhat advanced in years.

Case VIII.

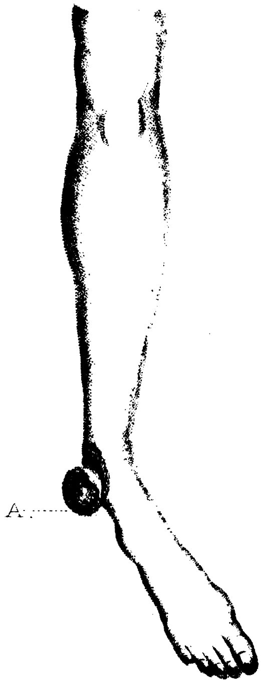
Resection of the Tibia.—The blessings that result from properly applied conservative means, in surgical science, can scarcely be appreciated by those who have not been fortunate enough to have had an opportunity of observing the extent and power of the great reparative processes of nature, which frequently surprise even those who are in a measure conversant with them. Some years ago Mr. Ferguson wrote, that amputations were rarely resorted to in the King's College Hospital, as the success attendant upon the conservative means employed, and the advances deduced therefrom in surgical operations, in the majority of instances preserved the limb for the patient, sometimes, to be sure, with a stiffened joint, and at others, perhaps, with a few inches of shortening, which inconveniences must certainly be considered of trifling import, compared to the entire loss of the limb itself.

The homœopathic surgeon who keeps himself well up to the times in the best known allopathic conservative means, and adds thereto the homœopathic treatment before, during and after surgical operations of any magnitude, has advantages that will yet be fully appreciated both by the public and the profession; but it may take some time for the superiority of the treatment to be acknowledged, for the following reasons, viz.: Because the majority of the large hospitals in cities and manufacturing towns are under allopathic treatment; because there are comparatively few homœopathists who give the study or practice of surgery the attention it deserves; because a majority of the laity, certainly in this country, believe that the homœopathist abjures surgical science, excepting perhaps the setting of a fracture or opening a simple abscess; and because, in many of the cities and towns, a case of surgery, when presented to a disciple of Hahnemann, is forthwith turned over to his neighbor, who is an allopathic surgeon.

Homœopathic surgeons would have been recognized in the army and navy of the United States had it not been for the above named facts, and the time will come, and is near at hand, when the odium will be taken away from our school; but the people must in the mean time be given to understand that there are homœopathic surgeons; and that the statistics, accurately and truthfully prepared by them, are proved to present better results than those of the older system. As soon as this is done satisfactorily, the project may be set on foot and carried successfully; but until it is accomplished, it is a useless expenditure of both labor and money to attempt to introduce into the army and navy of this country a system of medicine which is regarded by many as actually opposed to all operative procedure, and which idea is disseminated with the utmost diligence by the members of the old school of physic.

To illustrate the benefits of the system of Hahnemann combined with conservative surgery, I present a most interesting and, I may add without egotism, a most successful case of resection of the tibia.

At the beginning of my last term of service at the Good Samaritan Hospital, I was particularly struck with the miserable appearance of a lad named Francis Bandans, aged about fifteen years. The history of the case is briefly as follows: The boy (who, by the way, could not speak a word of English, making known his complaints and wants in broken French) had been employed by a farmer, and was driving a truck, drawn by oxen, on which was a large piece of heavy timber; by some unlucky accident, the lad fell between the wheel of the wagon and the stump of a tree, the former passing over his left leg, while his right leg was bruised severely by the fall. He was taken up as soon as assistance could be procured and the nearest doctor (!) summoned. There was a severe compound fracture of both tibia and fibula, the ends of the bone protruding to the extent of an inch and three-quarters through the wound; the lower portion of the leg being at an acute angle, and the foot so entirely twisted from its position that it rested on the internal malleolus and the external edge of its plantar surface. What the doctor (?) did is not well ascertained; but no attempt was made at either setting the bones or replacing the foot, and the boy lay *five weeks* with the injury as described. Then worn out by his suffering and with profuse suppuration, he was brought in an open wagon to the hospital. The broken bones had united, presenting a deformity which may be well imagined, and which is well represented in the



Resection of the Tibia.

A. Protruding end of the Tibia covered with granulations drawing. The protruding ends of the tibia were covered with a crop of thick and dark red granulations. (See illustration.) There was a suppurating and offensive ulcer on the posterior portion of the right leg, occupying the whole belly of the gastrocnemius; another sore about the hip joint, together with spasmodic rigid contraction of the toes and knee joint. The patient was also very much emaciated, with a dry, brown, hard tongue, pulse one hundred and thirty beats to the minute, tympanites, and all the well-marked symptoms of typhus gravior. To all appearances, with the extent and gravity of his injuries, the exhausting suppuration, the deprivation of proper nourishment, there were certainly data on which to found a very unfavorable prognosis.

The first medicine prescribed was arsenicum^3, about two grains every three hours; while brandy and water three times a day with occasional spoonfuls of beef essence, were carefully administered. The ulcer on the right leg was dressed with calendula lotion, which was also applied over the protruding extremities of the fractured bones. It was some days before much improvement was noticed, but gradually the symptoms began to abate in their severity, excepting most excessive pain in the region of the hip joint; the most acute pain beginning at evening and lasting through the entire night. The screams of the poor boy were such that the other patients in the ward were unable to sleep. The application of compresses saturated with strong tincture of aconite gave relief in time to this distressing symptom. The tympanites was relieved by turpentine in three to five drop doses taken once in four hours, and the remaining symptoms combatted as they presented with bryonia, rhus tox. and sulphur. About this time a diarrhœa became very troublesome, but was successfully treated with phosphorus and phosphoric acid. During this treatment stimulants were constantly given, and their good effect was very appreciable. At length the disease was overcome.

Any physician who has had opportunity of treating typhoid fever is well aware of the prostrated condition in which it leaves the patient, and can readily understand that with such a state of the constitution any severe surgical operation is incompatible. But the boy improved; the sores on his leg healed, the pain in the hip disappeared, the spasms of the flexor muscles passed away; but nature, as the process of reparation continued, also fastened even more tightly together the bones of the fractured leg, which, be it remembered, were united when the patient entered the house, and he had been in the hospital up to the time of which I write, nearly six weeks.

As the danger to life passed, the deformed and misshapen limb began to claim the attention it deserved, and which it should have received when the injury was first inflicted.

My first impression, and I believe that of those who saw him, was that amputation must be resorted to, but upon reflection, I thought that resection might be practiced, and upon consultation it was agreed to attempt it.

On the second of March, being assisted by, and in the presence of several medical gentlemen, having placed the boy upon the operating table, and brought him fully under the anæsthetic influence, I began the operation by dissecting from the protruding bones the mass of granulations; then beginning about five inches above the site of fracture, I made a longitudinal incision along the spine of the tibia, and continued it three or four inches below the protruding bones; this incision was crossed at the center by a second transverse cut, and the four flaps dissected up. Keeping the edge of the knife close to the bone, the aponeurosis of the tibialis anticus was divided, and the anterior tibial artery protected from injury. The ends of the bones were then sawed off, about two inches being taken away, and the bony adhesions of the fibula, which had united firmly with the shin bone, were, with considerable force, refractured. The foot was then twisted back again, placed in its position, and fixed securely in a splint, leaving a space between the divided extremities of the bones, from which the ends had been removed, of two inches. During the operation the hemorrhage was not important, but when I visited the patient in the evening, there had been so profuse a discharge of blood, that I feared the teeth of the saw had wounded the anterior tibial artery. All dressings were therefore removed, but I found the bleeding to arise from the medullary canal. Compresses wetted with a solution of the liquor ferri persulphatis were applied, which after two days arrested the hemorrhage.

On the 5th of March the limb was placed in a fracture-box extension made to keep the leg the proper length, and bran packed closely around it. This bran dressing was of the most serviceable nature; the leg was never moved from its position; the wound could be cleansed readily and as often as was necessary, could be examined at any time, and could receive the benefits of the cold calendula lotion, which was constantly applied. Moreover, as suppuration took place the pus was absorbed by the bran, which it formed into hard masses that were easily removed, and the space refilled with fresh material.

On the 25th, a sequestrum came away. On the 27th, the leg was taken out of the bran, the fracture-box cleansed, refilled and reapplied as before. On April the 4th, the whole apparatus was dispensed with, a slight splint applied on the inside of the leg, and held *in situ* by adhesive strips. The boy was soon about the house, has *a leg of the same length* as the other, and though not quite so strong, there is every reason to believe, that, with the motion of the ankle unimpaired, the cure will be ultimately perfected.

Case IX.

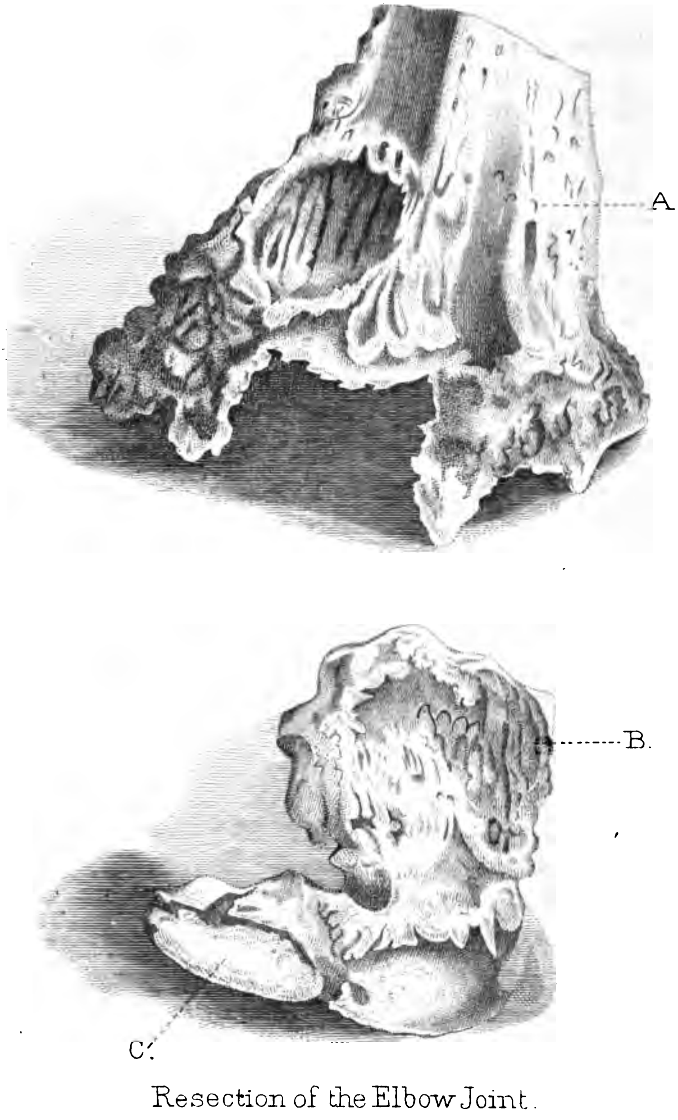
Resection of the Elbow-Joint.—The following is an interesting case in many particulars. This patient was afflicted over a year ago with severe pain in the left elbow-joint, which continued for several weeks. The sufferings were especially aggravated at night, and neither external applications nor internal medication produced any relief. Finally tumefaction, redness and fluctuation indicated the formation of pus on the external aspect of the arm, and the abscess was opened by the physician who then had charge of the patient. For a short period the suffering was ameliorated, though the pain was sometimes severe. Another fluctuating surface appeared on the inside of the joint, which was allowed to open spontaneously, giving exit to a large quantity of pus. About this period, or shortly thereafter, the patient entered the City Hospital, in St. Louis, where he was treated for some time; the surgeons however, averring that as yet there was no disease of the bone.

The patient remained at the hospital several months, losing both flesh and appetite, the discharge continuing from both outlets. He entered the Good Samaritan Hospital several weeks since. There was immense tumefaction about the joint, with considerable atrophy of the muscles both above and below the swelling; there was undoubtedly caries of all the bones, involving the elbow, with destruction of the cartilages and lateral ligaments; the probe introduced, distinctly announced a carious condition of the bones. There was no kind of medication that would cure this patient; surgical interference of the most grave character was requisite. If allowed longer to remain in his present condition, already exhausted by suppuration, death would certainly ensue; and the longer surgical means were deferred the less chance for success. The question, therefore, arose regarding the best plan to be adopted. Should we amputate the arm at the middle third of the humerus or should we resect the elbow-joint? At the present time, excision of the elbow-joint is a standard operation of conservative surgery, and the success which has attended its performance, together with the usefulness of the limb, which often remains after the operation, are sufficient inducements to the judicious surgeon to attempt the proceeding.

Before proceeding to the operation, let us look a little into the anatomy of the parts concerned. Three bones enter into the formation of the elbow; and the joint is a compound one, a ginglymoid and a diarthrodial. On the anterior face of the humerus we have two muscles, which connect the forearm with the arm. One of these, the biceps, is inserted into the tuberosity of the radius; the other, the brachialis anticus, is fixed to the lower portion of the coronoid process of the ulna. If we draw a line from the outer side of the axillary space between the folds of the axilla to a point or depression midway between the condyles of the humerus (which depression marks the boundary between the inner border of the caraco-brachialis and biceps), we have the direct course of the brachial artery, which is comparatively quite superficial in front of the joint, before its bifurcation. These structures, which we have mentioned, being in front, are in a measure out of harm's way. But there is yet a point in the surgical anatomy of this joint to which I desire to particularly call attention. It is the course of the ulnar nerve, which comes from the inner cord of the brachial plexus and lies on the inner side of the artery. From this course it diverges, pierces the intermuscular septum, and winding around, passes into the groove between the internal condyle of the humerus and the olecronon process of the ulna. It is necessary to preserve this nerve from injury, during the operation.

There are a variety of methods recommended for resecting the elbow-joint; but the truth is, as in all surgical operations, the size of the flaps and their number, and the direction of the incisions, are to be influenced by the circumstances attendant upon each particular case. Perhaps the single straight incision is, as Druitt says, the best theoretically. Moreau preferred the H incision, as does also Professor Hamilton, of New York; although the position of the patient (on his belly), as recommended by the former surgeon, I conceive to be inadmissible on account of the danger from the full and prolonged anæsthesia. Manne made two semilunar incisions, and Roux recommended the cut to be made in the shape of the letter T.

We placed the patient on the table and having arranged him so



Resection of the Elbow Joint.

A. Extremity of Humerus removed.
B. Olecranon.
C. Head of Radius.

that his arm projected over the side, elevated his shoulders and administered the anæsthetic. I began by making a straight incision, commencing four inches above the joint and prolonging the same four inches below, carrying the scalpel directly through the tissues down to the bone, opening in its course the fistulous orifice. Keeping the edge of the knife to the bone, I separated the tissues, and introducing the index finger of my left hand into the lower extremity of the joint, found the head of the radius, loosened the same from its connection, and pushed it through the wound. The retractor was then placed under the head of the bone, which was removed by means of the saw. Next I proceeded to remove the condyles of the humerus. It was found necessary to prolong the incision upward, on account of the disease extending far up the shaft of the arm-bones. The tissues were very much diseased and infiltrated with pus, and a transverse incision was made across the joint, about two inches in length, at right angles with the first. After the tissues had been separated, I inserted my finger into the angle of the wound, and distinctly felt the ulnar nerve lying in its groove; this I pushed over the process, and the lower extremity of the humerus being disengaged, was sawed off. The third step was the removal of the olecranon, which I took off with the chain saw; and after having drawn the wound together with interrupted suture, placed the arm on a pillow, dressed it with the calendula lotion, and fixed it in a splint bent at an obtuse angle. The operation was completed as described.

While going through the hospital I found a case of vesicular erysipelas on the cheek of a boy from whom I had removed the inferior maxillary bone some months before. Had I seen this case before the operation had been commenced, it would have been deferred. The patient on whom the resection was performed steadily improved for ten days. An immense amount of diseased and decayed muscular tissue came away. The parts were regularly dressed with calendula lotion, the chamber well aired, other patients removed from the ward, and in due time healthy granulations appeared. On the seventh day a patient in the next ward, who was under treatment for a severe wound of the foot made by an ax, became affected with erysipelas of the most violent kind; and the day following, a boy, who had an abscess over his eye which had been lanced a day or two previously, showed symptoms of the disease. These cases gave me great uneasiness, and my fears were too soon verified; for on the morning of the tenth day, when I visited the hospital, I found the patient on whom the operation above described, had been performed, showing signs, that could not be mistaken, of erysipelas on the inside of his arm. He was immediately given belladonna, and rhus tox, several of the stitches taken away, and only a sufficient strapping allowed to remain to support the parts. For a week the medicines appeared to control the affection, but afterward symptoms of gangrene appeared, which terminated the life of the patient in a few days. I have every reason to believe, and it is the opinion of the surgeons of the hospital who assisted at the operation, that had not this malignant disease made its appearance in the house at the time of the operation, it would have been successful in its result.

The plate represents an exact condition of the removed bones.

CASE X.

Lithotomy: A Clinical Lecture at the Good Samaritan Hospital.—In the early part of May last, a gentleman from Quincy, Ill., brought his son (a lad of about seven years of age) to my office for the purpose of ascertaining whether anything could be done for his relief. His symptoms were as follows: Frequent inclination to pass water, which was always worse at night or when lying down, attended with most excruciating pain, a few drops only being voided at once. The little fellow would lie on his stomach and cry aloud from the agony he experienced when micturating; there was some enlargement of the penis, with considerable elongation of the prepuce, frequently recurring erections, and sometimes blood discharged with the renal secretion. Hearing this account, I decided that there must be a stone in the bladder, and questioned the father as to what had been done to relieve him. In reply, he stated that several physicians had attempted to find the stone, but none of them had been enabled to detect it, although on one occasion, one of the professional gentlemen thought that he had discovered the offending material.

Let me, before we proceed further, say a word in reference to what is termed by surgeons, "*sounding.*" To be able to perform this portion of the operation, upon which *alone* the diagnosis of the case must be made out, you must possess a thorough knowledge of the anatomy of the urethra and the *curves* that it makes in different parts of the canal; otherwise not only will you subject the patient to much additional pain, but most dangerous results may follow the improper management of the instrument.

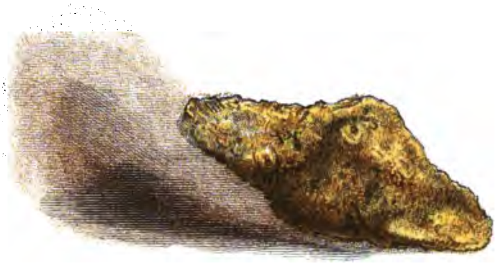
To sound a patient properly, the instrument must possess a very different shape from that of the common metallic catheter, the curve being the arc of a much smaller circle. It should be constructed of solid steel, highly polished, with a broad, flat and rather thin handle, in order that any impression made at one extremity may be distinctly appreciated at the other; while that portion which enters the bladder should be of larger calibre than the shaft which remains in the urethra. Grasping then the penis in my left hand, and retracting the prepuce, I put the organ somewhat upon the stretch, and direct its extremity at about an angle of forty-five degrees from the body. Taking then the sound, well oiled, between the thumb and forefinger of my right hand, which I hold close to the body of the patient, I introduce its point into the meatus urinarius, and allow it to glide along the urethra until the curve reaches the perinæum; then holding the sound and penis in my left hand, I gradually depress them, or turn them toward the feet of the patient, whereby the point of the instrument is raised, and then, with gentle pressure of the right hand, cause the curve to pass over the bulb of the urethra and into the bladder. This is not "sounding," properly so called, it is merely the *introduction* of the sound; the more delicate portion of the proceeding remains to be accomplished. The sound must now be held lightly in the hand, and must be moved about in all portions of the bladder until the peculiar click is heard or felt. As soon as the operator has satisfied himself that the steel instrument has touched the stone, he must hand it to others of his professional friends and allow them also to be fully certain that beyond a doubt the calculus is present. This rule should always be followed; nor should the operation be commenced until several other surgeons have detected the offending material. It will, therefore, be seen that sounding for stone is a most delicate and difficult procedure; and when men, who have devoted a large portion of their attention to the consideration of stone in the bladder, say of "sounding," that "to perform it well requires great tact in the use of instruments, a perfect knowledge of the anatomy of the urinary apparatus, and a degree of experience which multiplied observation alone can supply," and that "the want of success in the operation is not confined exclusively to the young, the ignorant or the unskillful," but that "men of the most consummate dexterity having occasionally failed in detecting a stone, when stone really existed," the procedure must be looked upon as all important in the operation.

The next step to be considered is the preparation of the patient. Having had the bowels evacuated by a full dose of castor oil, which, by the way, serves the double purpose of relieving the bowels and inducing thereafter constipation, he must be brought to the edge of the bed, over which an oil cloth or an India rubber blanket has been laid, and the wrists and ankles of each side are to be firmly secured. An assistant must stand on either side, and with their hands upon the knees, must separate them as widely as possible. The chloroform may now be administered. An instrument resembling in shape a catheter, constructed of solid steel, with a groove a little to the left side, with a rounded extremity, and which is called a staff, must now be passed into the bladder, drawn up against the pubis, and placed in the hand of a *steady* assistant. Gross says, "a poor staff holder is a great curse;" and so he is, for a change in the direction of this instrument, its depression in a sideway position, may not only embarrass the operator, but may cause ultimately the death of the patient, by a division of wrong structures.

Having now all things prepared, the patient chloroformed and well secured, the staff holder steady and the staff in position, sponges, etc., at hand, the instruments beside him in a convenient position, and a good light falling upon the perinæum, which, if the patient be an adult, must be carefully shaved, the surgeon seats himself in front of the patient, takes an ordinary scalpel in his right hand, and with the forefinger and thumb of his left, puts the skin upon the stretch, and enters the point of the knife on the *left* side of the perinæum, about an inch and a half above the margin of the anus, and carries it downward and outward to a little distance below the tuber ischii of the left side. Now in a child, as in the case of the patient, there is not much sub-cellular tissue, and, therefore, not a very deep incision is required; but in some instances, where the subject is fat, this cut must be fully an inch in depth. There is also one important point to be remembered in this part of the operation, viz.: The incision from the external surface of the perinæum to the point where the knife enters the groove in the staff, must be either conical or triangular in its shape, with the apex at the membranous portion of the urethra, a little in front of the prostate gland; by bearing this in mind you will perceive that the nearer you approach the staff, the less extended must be your incisions. Placing now my left index finger in the upper angle of the wound, the transverse muscles and triangular ligament are successively divided, until I feel the staff clearly within the canal at its membranous portion. I still keep my finger in the wound, and with my nail for a guide, introduce the point of the scalpel into the urethra, and then withdrawing it, take in my hand a knife which has a long blade and a long handle, with but a short cutting edge and a button-like extremity which fits into the groove in the staff. At this stage of the operation it is well to pause for a moment and have the staff drawn up under the pubes, and ascertain if it is in proper position; and finding it in place, I push *forward* the knife, it readily enters the bladder, which is indicated by the gush of urine that generally ensues. Let me remark here also with reference to the *direction* in which the knife is pushed. It should be carried *straight along* into the bladder, keeping the probe point well in the groove. Care must be taken not to elevate the hand or allow the blade of the knife to look downward; if this be done it will slip from the groove in the staff, and be plunged into the rectum instead of the bladder, and the whole operation spoiled. There is another caution. Do not *cut* too much of the prostate; withdraw the knife as soon as there has been made an opening into the bladder, and take the forefinger of the right hand and *gradually* enlarge the opening. Very frequently the stone can be felt at the neck of the bladder, and by introducing a pair of forceps with broad and serrated jaws, the stone can be readily removed. If it be impossible, from the size of the offending mass, to accomplish its withdrawal, the wound must be carefully enlarged to its utmost extent; and if still the calculus cannot be withdrawn, it must be broken in pieces with a crusher. I now wash out the bladder very thoroughly with tepid water, by means of a good sized syringe, and again introduce my finger to ascertain if other calculi are present. There is none in this case, and therefore the patient is released from his bands, placed comfortably in bed on his left side, with an India rubber cloth under the buttocks, to catch the urine which escapes, and the operation is completed. I employ neither compress, strap, bandage or catheter, and, as I trust, complete recovery will result.

The foregoing description is that known as the lateral operation for stone. The examination of the calculus proved it to be what is termed the *fusible* calculus, which is a combination of the phosphatic and the ammoniaco-magnesian. It is extremely brittle, leaves a dust upon the fingers, and presents, when broken, a rugged and uneven surface. It resembles in appearance somewhat, the oxalic calculus, which is termed by many "the mulberry," the chief component of which is the oxalate of lime.

Early and complete recovery followed this operation. The shape and size of the calculus are well represented in the accompanying engraving.



Fusible Calculus.